

# *keep track*

Customer magazine of the Rhomberg Sersa Rail Group

Issue 2017



// Collaboration: how will companies work in future, pages 6\_7

// Success story: SLS Sersa Second Life System, page 16

// Slab track: the complete package, pages 24\_30

**RHOMBERG  
SERSA**

**RAIL  
GROUP**



# Railway technology services in the digital age

Digitalisation brings us great opportunities and makes things easier – with it, information can be stored, distributed and evaluated much faster and comprehensively, and can be reproduced without any loss of quality. As a service-oriented company, we at Rhomberg Sersa Rail keep track of this development, as we always look for ways to make improvements for our customers.

Success factors: Technological progress has opened a range of completely new process options – as in our internal project management (pages 6–7), maintenance management (page 20) and business fields. In the latter, we have been active for some time, e.g. in the development of track network digitalisation. We want to, and should apply these new developments, especially in the safety sector (page 18).

Nevertheless, like before our main business is in "analogue", i.e. conventional, railway construction and railway technology. Also here, we are looking ahead and are driven by motivation; currently the biggest challenge is the ever increasing utilisation of rail infrastructure. Trains are becoming more and more important to people as a sustainable means of transport. For goods transport, trains stay the undisputed leader. But this means ever tighter slots for maintenance and repairs. We therefore provide our customers with efficient solutions, such as slab track (pages 24–30), the Second Life System (page 16) as well as highly efficient and modern machinery (pages 21–23).

These new developments will still continue. The future will necessitate carrying out projects in parallel, in very confined spaces and without interrupting rail services. We already have the answer to this today as prime railway engineering contractor – like at the Rosshäusern tunnel (pages 8–9) – we support our customers in the best way possible by rendering a quality service, fast and without interruptions.

In this spirit, we hope you will find a few quiet moments to enjoy this magazine!

The Owner Board

Konrad Schnyder, Hubert Rhomberg, Jürg Braunschweiler and Ernst Thurnher



Konrad Schnyder (2nd from right), Hubert Rhomberg (2nd from left), Jürg Braunschweiler (l) and Ernst Thurnher (r)

<b>Editorial</b>	3
------------------	---



**Rhomberg Sersa International**

**Focus on collaboration**

Really working together!	6_7
Creating things together without obstacles!	8_9
Advantages for each aspect of project development	10_11
Keeping all the threads together	12

**From the company**

**COMPANIES**

	Crisis as an opportunity	13
	Personnel matters: new orientation for growth	14
	25 years of quality	14
	Big reception for railway specialists	15
	Personnel matters: setting a course for the future	15

**PRODUCTS**

	Innovation that lasts	16
	We always go the extra mile for each customer	17
	Improving track safety	18
	BahnWege seminars: the future of project communication	19
	Keeping apace with maintenance	20










**MACHINES**

	The machine fleet expands	21
	Cleaning ballast for Canadian National Railway	22
	Man and machine	23

**SLAB TRACK**

	Specialists for slab track	24
	Heitersberg tunnel: reconditioned for the long term	24
	Gospel Oak: New hights, thanks to shallow profile	25
	"Rohr intersection": quality work ensures another contract	26
	Queen Street: down the tunnel	27
	Northwest Rail Link/Hunter Valley: expansion aid in Australia	28_29
	Hohenthurm: slab track in winter	30

**On site**

GRail 1: success in series _____	31	
BBW: many years of partnership _____	32	
Düsseldorf main railway station: an exciting project _____	33	
Albula tunnel: from the inside out _____	34	
The Sersa logo across Saxony _____	35	
Glatscheras tunnel: collaboration at a world heritage site _____	36_37	
Halle (Saale): shunting yard back on track _____	38	
VDE 8.1: the final spurt _____	39	
Impressive completion: follow-up contract for Sersa BV _____	39	



**Masthead | Publisher:** Rhomberg Sersa Rail Group GmbH, Mariahilfstrasse 29, 6900 Bregenz/AT  
 T +43 5574 403 0; Würzgrabenstrasse 5, 8048 Zurich/CH, T +41 43 32223 00, info@rhomberg-sersa.com, www.rhomberg-sersa.com  
**Photos** Rhomberg Group, Rhomberg Sersa Rail Group, Andrea Badrutt, BLS, Shutterstock  
**Responsible for content** Matthias Moosbrugger (Head of Marketing & Communication), Michael Sutter (Project Manager),  
 Torben Nakoinz (text), **design** Benedikt Krauß **Paper** Balance Silk **Publication** as per § 25 Media Law Keep Track  
 is published 1 x year with a circulation of 5 600 (AT/CH/D) and 1 000 (AUS/CAN/UK)  
**Note** In the Keep Track magazine of the Rhomberg Sersa Rail Group, the female form of speech has an equal standing to the  
 male form of speech; for reasons of simplification of content, only the male form of speech is used.



# Really working together!

// How, in future, the Rhomberg Sersa Rail Group wants to handle projects and orders with partners, employees, customers and consortiums even more efficiently.

**Currently, collaboration is the "next big thing" in the economy. It is of utmost importance to create synergies between specialists from different departments and even different companies in order to successfully implement projects.**

Based on today's technological possibilities, this is becoming ever better and more efficient. However, to really

work collaboratively, technology on its own is not enough. And organisationally speaking, it is not enough to just gather all project participants around a table and exchange information – that is called cooperation.

True collaboration entails people or teams working together in parallel contributing parts of the end result. This is also how the decision-makers at

the Rhomberg Sersa Rail Group see it: "The opportunity to network on similar issues or technologies makes it possible for us to overcome the organisational and regional distances within our Group, and employees with similar interests and competences find each other collaborating in digital rooms", explains CEO Hubert Rhomberg. In doing so, all colleagues need to keep

## FACT BOX

In the German-speaking context in particular, the word "collaboration" has historically been used when referring to collaboration with the enemy during times of war and occupation. Back in the 19th century, collaboration also played a significant role, especially in various German-French conflicts after the Napoleonic Wars.

In contrast to the English-speaking countries and in commerce, the term has always been used in a neutral sense as a synonym for "working together". In this sense, collaboration means a particularly strong form of cooperation. In more detail, the term not only refers to the cooperation of a company with its customers and suppliers, but also to that amongst employees or using modern information technology for the integration of company-internal and cross-company business processes.

in mind the overarching entrepreneurial objective.

That is why the Rhomberg Sersa Rail Group has taken the "MyNet" collaboration platform online company-wide in recent months. This type of network cooperation is already applied to the first projects, one of them being the Rosshäusern tunnel (see pages 8 and 9).

"We cannot respond to opportunities and challenges due to increasing dynamics of digitalisation by waiting for instructions from the top" says Matthias Moosbrugger, Head of Marketing & Communication at Rhomberg Sersa and "MyNet" Project Manager. "There will no longer be 'top' and 'bottom' in the classic sense. Those employees that are in contact with the customer and the market will be able to identify and know what to do. They will be able to draw the collective knowledge of

their colleagues, without having to wait for instructions. The overall structure will only provide a framework, guidance and some boundary conditions." This will result in a precious asset of competent management – trust. "We need self-confident managers who are being less 'guardians of knowledge' and more coaches", explains Hubert Rhomberg. "Obviously, collaboration involves a completely new form of organisation. We are aware of that!

This therefore also involves a process of organisational development. What is important is that the employees recognise that they are invested with much more creative possibilities and power – for their benefit and that of our customers."

”  
Collaboration is a completely new form of organisation.

“



**Hubert Rhomberg**  
CEO  
Rhomberg Sersa Rail Group

## CONTACT

Matthias Moosbrugger  
Head of Marketing & Communication  
Rhomberg Sersa Rail Group  
T +43 5574 403-2195  
E-mail: matthias.moosbrugger@rhomberg-sersa.com



# Creating things together without obstacles!

// Collaboration at the Rosshäusern tunnel project, where all project participants used the RSRG "MyNet" platform for the first time – two participants report.



Interviewed: André Schweizer, BLS Netz AG (left) and Roland Kugler, Rhomberg Bahntechnik GmbH (right)

## **What do you view as the main differences between working with MyNet and the previous forms of collaborative project management?**

André Schweizer: Up to now, we have mainly used e-mails and sometimes even paper for the exchange of information, both internally and with external partners. In most cases, the data was filed multiple times. Owing to the numerous instruments and options previously available, today's project management is still characterised by a high degree of individuality. On the other hand, there is a need for more standardised processes, particularly in larger companies. Tools such as MyNet create favourable conditions for this.

Roland Kugler: We have previously gained some experience, with OwnCloud, even though that was just a simplified data exchange system; furthermore, only André and I worked with that. Now finally all team members and suppliers could also join in. I am sure that now coordination and project management will improve significantly. On the other hand, our responsibility as project managers have increased.

## **Why MyNet? Why work "collaboratively" at all?**

André Schweizer: We are facing a situation where we need to be able to handle the ever increasing quantity of data and the complexity of projects and their interfaces better. We need to look at digitalisation as an opportunity to provide increasingly better and more efficient aids for the management of complex projects, especially where many partners are involved. MyNet gives us the opportunity to share in the experience of trying out and contributing to new working methods in a pioneering role.

Roland Kugler: MyNet is the opportunity for us to play an active role in designing the future. Ultimately, the issue is how we can cooperate with customers and partners as easily and as efficiently as possible. And such tools are what makes that possible.



**What does that actually mean? What are the benefits and disadvantages?**

André Schweizer: One advantage without a doubt is that information is up to date. Everybody can access the current status at any time. With the additional integrated functions for organising meetings and updating work lists and open issues, it is possible to avoid interruptions, due to the use of various media and less information is lost. We are moving closer towards an electronic office. Likewise, things like running a home office or mobile working become easier. Having said that, it is a prerequisite that there is always a good reliable internet connection. But this is likely to be less of a problem as time progresses.

Roland Kugler: Without any doubt, the simplification of coordination and organising is a big advantage in complex projects, such as these we are dealing with. However, we need to ensure that our colleagues are properly trained before using MyNet, because it's just a different way of working. For example, everything placed on MyNet can be directly viewed by everyone. For this reason, every single document

must be defined and accurately filed. Cost calculations and finances must be encoded and/or filed in such a way that only authorised users have access.

**What is your provisional conclusion?**

André Schweizer: To draw a conclusion at this stage is too early. I am particularly looking forward to using those functions that are new for us, and to find out whether these are well accepted by other users. After all, the tool also creates more transparency – and that's not always welcome! And then we also have to think about how to return the data back to the BLS world at the end of the project. However, after all that I have experienced with MyNet, I am looking forward to the coming months with excitement.

Roland Kugler: I can only repeat the same thing; cooperation is becoming easier, more efficient and more comprehensive. Besides, this is a development that will continue – without any doubt. The earlier we seize this opportunity and start working in this new way, the better it is – for us, for our partners and for our customers.



Simply efficient: MyNet facilitates the handling of large and complex projects such as the Rosshäusern tunnel



A light in the dark: the JV between Rhomberg Sersa UK and Rhomberg Bahntechnik benefits the companies themselves, their customers - and the British rail network.

# Advantages for each aspect of project development

// How the companies of the Rhomberg Sersa Rail Group collaborate – the UK example

**The internal joint venture (JV) between Rhomberg Sersa UK Ltd. (RSUK) and Rhomberg Bahntechnik (RBT) is not the only successful cooperation in the company Group on the island – for example, with the British Amey company, the railway technology specialists have been extremely successful at renewing large numbers of the switches in the British rail network since 2014. But it is a prime example of this type of cooperation within the Rhomberg Sersa Rail Group. Our British colleagues benefit from the specialisation of Rhomberg Bahntechnik in the field of the development and installation of slab track. In terms of access to the market and the typical characteristics of the country, it is the other way around.**



Installation of slab track in the two-track tunnel at Queen Street railway station

The JV started in 2014 with the Asfordby slab track trials. Originally, RBT was instructed by RSUK just as a contractor and coordinator for the installation. But right at the beginning of the project development phase it became apparent that work on the British infrastructure would be a challenge for RBT, in particular with respect to the specific requirements for competence management, working methods and customer relations on the island, and due to the language barrier.

## "Lost in translation"

For this reason, it was soon decided to form a JV. The objective: by working jointly on all aspects, the contract was to be executed on time and within budget, and to the customer's fullest satisfaction. Risk and revenue were split equally. "Of course, there were also difficulties in reaching our goal", is the open admission of Carl Garrud, Managing Director of RSUK. "But the commitment shown by the management and the project teams ensured that the project was successfully completed, and we have achieved all objectives." The experience gained from this was further developed by both partners, who thus managed to find a joint strategy – to the customer's advantage: "We both act independently, but always bear in mind where the partner is perhaps better positioned, and where synergies can be generated", explains

Carl Garrud. With the so-called "best-for-project" concept, they ensure that the customer is supported in the best possible manner, and also benefits from the savings potential of the JV. The success proves the concept right; after the successful completion of the first project in Ashfordby, the JV has already carried out many further projects and completed them with profit for all involved. Two of these projects – Gospel Oak and Queen Street – are introduced in this issue on pages 25 and 27. Now the JV is receiving advance orders taking them up to 2020.

## New project

The latest order is for the installation of a slab track (S & C) along the Northern Line extension, which is under construction by the Ferrovial Laing O'Rourke JV (FLO). This is a challenging project that requires the connection of an existing London Underground line to a new line, which is being worked on simultaneously in two separate locations. The contract will be carried out over the 2017 Christmas period and is another example of how results can be achieved through cooperation, results which each of the parties involved could not have achieved alone.

A clear line: in spite of different interests, all participating companies moved in the same direction.



# Keeping all the threads together

// Rhomberg Bahntechnik, BBW, Universale and Rhomberg Fahrleitungsbau managed to solve the Rohr intersection puzzle with their combined competences

**The latest chapter in the saga of the goods train bypass of St. Pölten was an opportunity for the specialists of the Rhomberg Sersa Rail Group to not only prove their professional competence, but also to demonstrate their flair as virtuous conductors.**

Construction lot G UW 5 – installation of slab track type ÖBB-PORR in the Radleiten tunnel, Bründlkappellen tunnel and in the Radleiten cutting, as well as the installation of ballast track on open track between the Radleiten tunnel and the entrance of the Pummersdorfer tunnel, including the connection to the Rohr intersection – was indeed very complicated, both in technical terms and also in terms of the coordination of the partners involved.

The head consortium was acting under the technical leadership of Rhomberg Bahntechnik in cooperation with Strabag AG. On the one hand it coordinated the sub-consortium, consisting of Bahnbau Wels, Universale Bau and Strabag

Bahnbau and, on the other hand, also Rhomberg Fahrleitungsbau responsible for overhead contact wire and earth conductor installations. In addition, other interfaces had to be coordinated with the consortia working on the adjacent construction lot.

"All fine-tuning of processes turned out to be quite challenging, because there were also a number of individual interests that had to be taken into account", remembers Werner Fahrnberger of Rhomberg Bahntechnik. "What was needed therefore was to pull the different interests and characters together, and to get them their buy-in towards the successful completion of the project."

Talking about success: "Everybody was satisfied with the project", was Werner Fahrnberger's objective conclusion. "Once again our client, ÖBB Infrastruktur, can look back on a punctual, high-quality completion."



# Crisis as an opportunity

// Sersa's private sidings construction in Germany has moved off the sidelines

**"A crisis is a productive state; you simply have to get rid of its aftertaste of catastrophe."**

**(Max Frisch)**

The situation was critical; owing to the low price level for public contracts, the construction of private sidings in Germany had been stagnating for years. This presented a particular challenge to market participants. Within the track construction arm of Sersa Group Germany, RS Gleisbau was the most heavily affected. In order to return to commercial success and retain as many jobs as possible, the track construction subsidiary of the Group applied for voluntary insolvency in October last year. "Only with serious changes to the structure was it possible to free ourselves from old debt and to re-establish the unit on a sound foot", explains Georg Gabler, Managing Director of Sersa GmbH in Germany. With great success the procedure was officially annulled at the beginning of April 2017 and the company was able to continue.

In this context, he stressed something else: "Without the motivated and committed employees of RS Gleisbau and the trust of our partners and customers in our competence, this would not have been possible. They all deserve a big thank you!" This provides courage and hope for the future.

However, for Georg Gabler this was only the first step; "We now have to continue guiding RS Gleisbau and the other companies of Sersa Group Germany back onto a strong and successful path. With our motivated and committed employees, we will succeed in achieving this goal. Furthermore, we were able to learn from RS Gleisbau's crisis and must facilitate the development and change of the company. Only as a team, we can shape the future."

”

We as a team - and only as a team - here and now forge the future.

“



**Georg Gabler**  
CEO  
Germany

# New orientation for growth

// Longstanding Australia boss moves to Canada

**The Canadian track construction company, Sersa Total Track, embarked on a change in its management structure in order to address the problems faced by the company in the fast-changing but huge North American market.**

Michael Match comes from the Australian company which he helped guide through its development into a well-established track construction contractor. Michael's capability in organisation and the development of

business and sales will be extremely helpful in Canada. He has already formulated a strategic business plan in order to drive local business and draw benefit from the strength of our Group. We wish Michael every success with the challenge of building up the local team and developing a growing and sustainable business in Canada.



# 25 years of quality

// Sersa in Germany celebrates anniversary

**On 31 March 1992, Sersa GmbH entered the German market in Lichtenstein/Saxony.** At that time, the German branch was the first company founded abroad by the former parent company, Sersa AG Zurich. One of the first exciting projects was the renovation of about 400 switch points in the Frankfurt am Main area using the successful Sersa invention, SLS Sersa Second Life System (see page 16). Its track construction site led Sersa again to Saxony. Here the company was able to demonstrate its capabilities from Sankt Egidien to Lichtenstein. Many other large projects followed throughout Germany. "Over the past 25 years we have established an outstanding reputation for reliability, quality and adherence to deadlines", says Konrad Schnyder, President, Owner Board. "In future, these will continue to be Sersa's values!", adds Georg Gabler, CEO Germany.



# Big reception for railway specialists

// Customer conference of Sersa Switzerland a great success

On 20 April 2017, the Swiss Transport Museum in Lucerne transformed into a railway trade exhibition: Sersa Switzerland invited customers to a conference and product training event. Interested parties from Switzerland, Germany and Austria used the opportunity to obtain first-hand information on the services provided by the Rhomberg Sersa Rail Group and to learn interesting facts about imminent challenges and the digitalisation of the market.



# Setting the course for the future

// New management team for Sersa Switzerland



Markus Weber



Simone Aebischer



Christian Schnyder



Robert Kumpusch



Christian Schreiber

**Top management of Sersa Switzerland took on a new shape since April under the leadership of Markus Weber.**

Weber's team consists of Simone Aebischer (Sersa Technik AG), Christian Schnyder (customer and market support, corporate communication), Robert Kumpusch (Sersa mechanised track construction) and Christian Schreiber (Sersa Group AG Switzerland). "With the growth to date within our Group and the promising outlook on the coming years, I

am convinced that we are well positioned", explains Konrad Schnyder, President of the Rhomberg Sersa Rail Group Owner Board. "In spite of that, we have jointly decided to bring about a generational change and to set the course for the future."

# Innovation that lasts

// Sersa's Second Life System has been a success story – for almost 40 years



Since 1978, sleeper bolts have been refurbished in Switzerland using Sersa's patented SLS solution, and since 1979, throughout the entire SBB network. "In times which product life cycles are becoming shorter and new ideas often become outdated even before they have reached the market. This is an incredibly long time, and a unique success story", explains Christian Schnyder, management member.

It is a success story which the supplier of innovative railway engineering has rapidly driven forward after its market launch in Switzerland; for many decades, Deutsche Bahn, Bern-Lötschberg-Simplonbahn, many private railways and the Dutch railways, have been putting their trust in this Sersa solution. The system has also been used in the UK and Russia. Thousands of switch

points, bridge beams and sleepers have since been returned to top condition. In the past 5 years, about 500 shifts in Switzerland were sent out yearly with the SLS system. "That is more than two-and-a-half teams every working day doing nothing but maintaining bolt seating on sleepers for our customers", says Christian Schnyder.

By the way, the next chapters in the success story of the SLS Second Life System are already being written; "We continuously develop new ideas to make our products even more attractive", explains Christian Schnyder. Due to the fact that concrete sleepers are increasingly replacing timber sleepers, we are also working on a solution to cost-effectively refurbish concrete sleepers and return them to a high quality standard.

## FACT BOX

### The advantages at a glance:

- Recovery of the baseplate to sleeper interface
- Recovery of the screw hole integrity
- Recovery of the gauge
- Correction of the super-elevation
- Compensation for the deflection of the switch-point sleepers
- Correction of the horizontal and vertical alignment
- Service life of the infrastructure can be extended by 5 - 10 years
- Return of investment costs after only 2 - 3 years





One of the tasks involved in mechanised track construction: placing the concrete sleepers to which the new rails are attached.

# We always go the extra mile for each customer

// The commitment of Sersa Maschineller Gleisbau AG in support of its customers

**In mechanised track construction, it is possible to install 180 metres of track in one shift. That doesn't sound like much, but is a tremendous distance achieved by a single night's work. We have listed some details of what happened at the Rhätische Bahn at Chur railway station, Felsberg in Switzerland:**

Working hours:	10:00 pm to 04:10 am
Sersa personnel:	20
RhB personnel:	2 train drivers + 2 assistants, 1 safety manager, 2 safety officers
Ballast cleaned:	360 m <sup>3</sup>
Loading cleared:	120 m <sup>3</sup>
New ballast supplied:	160 m <sup>3</sup> (approx. 40 m <sup>3</sup> more, because the new track position is higher)
Sleepers installed:	300
Bolts used:	1 200

#### Also deployed:

- A train for dismantling and removing the old track sections and installing the new sleepers, length: 120 metres (5 flatbed wagons, 1 for the "Mungg" portal crane, support trucks for lifting equipment with crawler tracks ("Schneegg"), a wagon for other lifting equipment and a rail handling machine)
- Construction train length: 160 metres (levelling machine R20RD-1, tamping machines B40UM-4, ballast cleaning machine RM76, 7 x old ballast loading trucks with conveyor belts)
- Train length with new ballast: 124 metres (loco and 8 wagons with new ballast)

In 2016 Sersa Maschineller Gleisbau AG completed about 80 such shifts for the Rhätische Bahn and Matterhorn Gotthard Bahn.

# Improving track safety

// New safety system: customers can get directly and actively involved

**The Rhomberg Sersa Rail Group is currently developing a new site management, positioning and warning system that enormously increases safety on construction sites and significantly simplifies coordination by issuing digital ID cards for all people and machines.**

The highlight for our customers: Since the system is still in the development phase, construction companies have the unique opportunity to test the new development on their construction sites, and to fine-tune it to their specific requirements. Rhomberg Sersa has specially shortened the innovation cycles of this product so that customers can define the final performance and output themselves whilst in use.

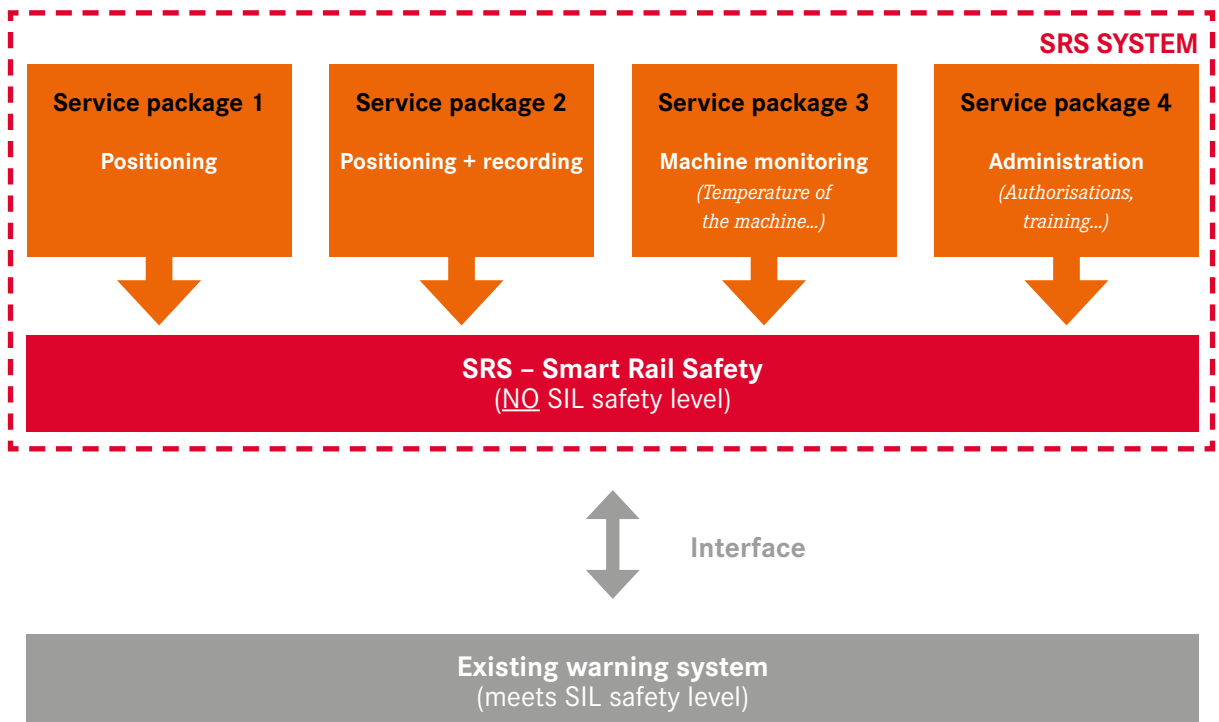
**The unique selling point: the customer has the option to assemble an individual system by selecting from different service packages.**

## Big help to reinforce the teams

The best safety system performs at its best when it is operated correctly. Sersa in Switzerland is well equipped for this situation; tailor-made concepts for safety-related needs on and off the track, as well as specially trained safety officers, ensure the smooth running of track construction sites.

### CONTACT

Matthias Frick  
Head of Products & Innovation  
Rhomberg Sersa Rail Group  
T +43 5574 403-5164  
E-mail: [matthias.frick@rhomberg-sersa.com](mailto:matthias.frick@rhomberg-sersa.com)





# The future of project communication

// BahnWege seminars uses social media

**In future, social media will become immensely important, particularly for communal transport companies to communicate with their target groups – the BahnWege seminars take the lead.**

Whether it is planning, approving or building inner city infrastructure, the use of Facebook, Twitter and other forms of social media opens up new means of communication with citizens, customers, and particularly those living close to the proposed works; this means that stakeholders can be contacted directly, decisions are transparent and the acceptance of projects can significantly be improved. In spite of promising and successful lighthouse projects in this field, there is still a need to catch up! Therefore, rather than sticking to the theory, those responsible for the BahnWege seminars have decided to put it into practice themselves, i.e. to use social media. It all hinges on the interactive blog, accessible at <http://bahnwege-seminare.de/newsblog>. The blog contains posts with short excerpts from the seminars, and lists training events. But also, those responsible would like to receive feedback and suggestions for new material.



The popular BahnWege seminar events are extended via a blog on the internet.

# Keeping apace with maintenance

// Sersa goes ahead with interoperability

”

With our maintenance management, we are ready to face the future.

“



**Robert Kumpusch**  
Managing Director  
Sersa Maschineller  
Gleisbau

A member of the Rhomberg Sersa Rail Group, Sersa started with the “VPI” maintenance management project in 2015. This was successfully completed in May 2016 and included two officially certified workshop locations – Weinfelden in eastern Switzerland and Lonay in western Switzerland. And the next quantum leap is imminent. In order to keep the overall railway system lean and maintaining "competitiveness in rail transport", Sersa is pursuing innovative process streamlining. The company currently participates in a pilot project to digitalise order processing, which is said to provide a win-win solution for all suppliers involved. "With our certification and customer-oriented flexibility, our maintenance management is at the top of its game, and we are ready to master the future", explains Robert Kumpusch, Managing Director of Sersa Maschineller Gleisbau and Head of Logistics.



A special low-loader wagon is undergoing inspection at the maintenance workshop in Lonay/VD.

## FACT BOX

To offer a comparable quality in international transport, the VPI Association has issued an official Guideline for Maintenance. This developed itself into the know-how-source.

### The objectives of the VPI Association:

- Improved framework conditions for freight rail services
- Free use of private goods trucks on national and international level
- Competitiveness in rail transport
- A balanced safety and environment policy for the rail industry
- Streamlining state-managed railway administration

# Machine fleet expands

// New high-performance machines at JumboTec and Bahnbau Wels

For a mechanised track construction company it is particularly important to keep up with technology – because of sustainability and for economic reasons. Technical improvements to track construction machinery not only benefit the environment, but also have clear commercial advantages for both customers and operators. This is exactly why Bahnbau Wels GmbH (BBW) and JumboTec GmbH have newly invested in their machine fleets. The BBW group continues its strategy of digitalisation based on these decisions.

Since the beginning of June 2017, BDS 2000-4, a new ballast management machine can be seen in service in the familiar blue/yellow BBW design. For years, BBW has been using this type of premium class machine. The machine efficiently manages unused ballast by storing any excess ballast in an integrated container within the machine, and then deploying it somewhere else where needed.

JumboTec has even purchased two new machines. The company has been working with a continuous action universal tamping machine, the Unimat 09-4x4/4S Dynamic, and a universal ballast distribution and profiling machine, the USP 2000 C2 since May. "With these modern, high-performance machines, we certainly contribute towards the development of ecological, social and economic sustainability. Our customers benefit from the high quality of the work and from the capability of a continuous maintenance train", says a pleased Matthias Giel, Authorised Signatory and Head of Track Construction Machines at JumboTec GmbH.

However, in both companies, one of the key resources is still the employees – with their know-how and commitment, they ensure the successful introduction of any new machines.



The new BDS 2000-4 ballast management system of BBW.



F.l.t.r: Matthias Giel (Head of Track Construction Machine department), the machine teams working on the Unimat 09-4x4/4 S Dynamic and the USP 2000-C2, Volker Garbe, Ronny Spichalla, Uwe Dietrich, Marcel Matschke, Lutz Wehner, Mirko Berghammer (operative maintenance)



The new Unimat 09-4x4/4 S Dynamic tamping machine of JumboTec

# Cleaning ballast for Canadian National Railway

// Sersa Total Track secures interesting orders

**In the previous year, Sersa Total Track (STT) has been successful in positioning itself for ballast cleaning in Canada. The current contract with Canadian National Railway (CNR) involves 50 shifts with an option for an additional 30 shifts. The work will primarily be carried out in the Canadian provinces of British Columbia and Alberta.**

The ballast cleaning program for CNR started on time at the Ashcroft Subdivision on 28 March 2017. To make that possible, the Plasser & Theurer RM80 UHR machine had been driven a distance of over 4 600 kilometres from its base in Brockville, Ontario, to Ashcroft, British Columbia, taking 10 days for the journey. This transfer was extremely demanding for the crew and machine, which was transported in several train sets of up to 3.5 kilometres in length.

On site, the ballast cleaning process has proven to be extremely reliable. The STT crew led by Arthur Vandodewaard is currently achieving an output of over 850 feet (260 metres) per hour. This high output combined with the good reliability of the machine ensures the client's full satisfaction. Currently the work is taking place along the banks of

the Thomson River and the Fraser River, which is extremely challenging for the machine operators. The steep banks, some of which have a drop of several hundred metres, and the permanent risk of rockfalls involve extreme danger for the crew.

The possession periods on the very busy Ashcroft Subdivision last up to 5 hours per day. The crew work in a 10/4 cycle. A total of 21 shifts along the Ashcroft Subdivision, 20 shifts along the Edson Subdivision (between Edmonton and Jasper) and 10 shifts along the Albreda Subdivision (between Prince George and Kamloops) are planned.

In addition to CNR, Canadian Pacific Railway (CPR) has also registered its interest in STT providing its ballast cleaning service in British Columbia. The program is to start in August this year and, with 12 shifts, will last into September. The plan is to work along the Mountain Subdivision at Golden, British Columbia.



Reliable on the remote Canadian rail network: the RM80 UHR at work.



The "all-in-one" B66U-6 measures, tamps, compacts and levels - in one run.

# Man and machine

// Even with track construction machines, digitalisation is increasingly being applied – but without trained personnel, nothing is gained

**"One machine that does absolutely everything", is how Matthias Manhart, Head of Development of Sersa Switzerland, proudly describes the new addition to SMGAG's fleet: The B66U-6, a true innovation on the Swiss market. The 115 ton monster is Sersa's first track construction machine that can measure, tamp, compact, and level ballast track – in one run. It also introduces a new level of digitalisation in track maintenance.**

"Compared to its predecessors, our 37 metre giant conceals a quantum leap in technology and software inside", boasts Matthias Manhart. For example, all diagrams and operating instructions for the machines and devices are available in digital format. "In the past, there were up to 1 200 pages of diagrams and 800 pages with operating instructions... for just one machine. All that is now redundant, and can be accessed any time". There is significantly more space inside the tamper's cabin because the bulky black boxes made way for a modern monitor with touchscreen. The general

industry trend is to store track data in digital format – at least at SBB. Machine operators simply download the information before their shift.

But in spite of all the latest technology and trends we use, we still need human input. Without highly trained and motivated colleagues, the high technology machines would be worthless". For example, during the tamping process, the machinist still has to keep a watchful eye on any irregularities or obstacles along the track. "No machine can do that. Although in contrast to sensors and software that will stop an entire process, because of an insignificantly small object like a blade of grass - our Sersa operators still have far more insight than this" ensures Matthias Manhart.

”  
That is one for  
everything.



**Matthias Manhart**  
Head of  
Rhomberg Sersa Technology

# Specialist for slab track

// Rhomberg Sersa Rail Group offers the complete service package

Busy train schedules, low maintenance costs, a long service life and sustainable track availability – these are all the reasons you need to install slab track. Rhomberg Sersa, the Swiss-Austrian railway engineering service provider is a well-known specialist in the field of slab track with experience that ranges from systems such as Rheda 2000, Rheda City, GETRAC, Low Vibration Track (LVT) and ÖBB-PÖRR (Slab Track Austria), to track systems with direct fixations such as Vossloh, Delkor, Pandrol and Plinth systems.

In addition, the company uses in-house developed machines such as the rail-bound concrete pouring train and a variety of widely known and used alignment systems. The Group launched its own slab track system, called IVES and developed the V-TRAS for an optimal transition between slab track, bridges and ballast track.

## CONTACT

Philipp Nachbaur  
Rhomberg Sersa Rail Group  
T +43 5574 403-5246  
E-mail: philipp.nachbaur@rhombergrail.com

# Reconditioned for the long term

// Rhomberg Sersa renews slab track in the Heitersberg tunnel

The main advantages of a ballastless superstructure are durability and a long service life. Nevertheless, even this type of track needs to be reconditioned at some stage. In the Heitersberg tunnel in Switzerland, this had to be done after about 40 years; the slab track along one of the main arteries of the SBB rail network, with an ultra high train frequency and priority, had finally reached the end of its service life. The Rhomberg Sersa Rail Group was able to secure

the contract for the conversion of four switch points in slab track and two ballast track sections directly adjacent to the tunnel. In addition, the Group was awarded the contract for the coordination and handling of logistics and safety. Another part of the contract done by Rhomberg Sersa, was the welding work and all survey activities, including the required technology and alignment systems.







The fourth slab track project: installation of slab track at Gospel Oak.

# New heights, thanks to shallow profile

// Thanks to slab track, Rhomberg Sersa is able to run tracks under bridges

**From the middle of July to the middle of October 2016, Rhomberg Sersa UK in a consortium with Rhomberg Bahntechnik GmbH, was involved in modernising parts of the Network Rail line from Gospel Oak to Barking in London. After the projects in Ashfordby, Winchburgh and Queen Street, this was already the fourth slab track construction in Great Britain.**

The entire line runs in a cut, which is crossed by many bridges. Owing to electrification of the line, the track posi-

tion had to be lowered in order to create enough space under the bridges for the overhead line equipment. For this reason, the ballast roadbed was replaced with slab track. A total of 1 600 metres of slab track of the ÖBB-PÖRR (Slab Track Austria) system was installed in several construction phases; the work was subdivided into three sections, each with about 270 metres of double track. In addition, 12 V-TRAS transition modules were installed for the transition to the respective connecting ballast roadbeds.

A result to be proud of:  
slab track at the  
Rohr intersection in  
St. Pölten, Austria.



# Quality work ensures another contract

// Once again the preferred choice – Rhomberg Bahntechnik and BBW installed top-quality slab track at the Rohr intersection

**At the most critical points on the goods train bypass of the Rohr intersection and at the two main switch points, ÖBB-PÖRR (Slab Track Austria) slab track was installed. For the executing companies of the Rhomberg Sersa Rail Group this was a pleasant return to a previous construction area; back in 2004, Rhomberg and Bahnbau Wels installed slab track as part of the first stage upgrade, which was "still of best quality and in top condition", said a pleased project manager, Werner Fahrnberger.**

A particular difficulty during this contract was that the slab track for the switch points and half of the track had to be installed on a line leading towards a single line dead-end. Given the dimensions and weight of the ÖBB-PÖRR track support slab, this was an exciting logistical challenge. Owing to the restricted space available on site, it was of utmost necessity to select switch point parts that were small enough to transport. Common practice is to supply

the switch points in rather large preassembled components to site using the WTW switch transport trucks. However, it was possible to transport the long rails/switch components to site via rail. The individual switch sleepers were brought by road some time later.

Along the single track sections, the slab track in the form of track support slabs (GTP) of 5.16 metres by 2.40 metres and weighing 5.125 ton per slab was undercast with concrete using a special pumping mechanism. The accompanying side walkways were subsequently constructed by working from the track. The SCC concrete, which is known for its complexity, was laid in the tunnels during winter to enable an almost jointless construction. With great pride a successful project was once again completed on time at the end of April and handed over to a very satisfied client.



From mid-July to mid-October 2016, 1 600 metres of concrete support slabs and slab track of the ÖBB/PÖRR system, as well as 12 V-TRAS modules, were installed.

# Down the tunnel

## // Slab track in tunnel: a challenge for logistics

**The special challenge involved with the installation of slab track in the two-track tunnel directly behind Queen Street station in Glasgow was that the entire material logistics had to take place via railbound vehicles, and – since Queen Street is a terminal station – only one portal was available for access. This made it necessary to store the slabs as an intermediate measure.** Concrete was laid using a two-way mixer, which was filled with concrete pumps at the portal and via two shafts in the tunnel.

Another challenge was to perfectly coordinate the traction machines and track occupation with the other companies involved, with only the possession periods available. The reason was that the platforms of Scotland's third largest railway station were renewed at the same time, and all materials had to be transported through the same construction site.

The contract was completed in a consortium comprising Rhomberg Sersa UK and Rhomberg Bahntechnik. The crew was made up of British operatives and railway engineering staff from Switzerland and Austria; employees from RTE provided support for planning V-TRAS surveys and execution.

After the projects in Ashfordby and Winchburgh, another two V-TRAS modules were installed – a big success for this relatively new venture in the British market. The RhoSAS system was used to align the switch points.



Moving concrete was one of the challenges, but thanks to our competent colleagues, everything went smoothly.



# Expansion aid in Australia

// Rhomberg Rail Australia helps slab track to achieve a breakthrough down under

In 2017, Rhomberg Rail Australia took a big step towards introducing slab track systems in the Australian market. In one of the projects, the Rhomberg Sersa Rail Group company has been commissioned with the installation of slab tracks in Australia's longest railway tunnel in Sydney. In another project, the company is installing IVES and V-TRAS in the Hunter Valley – and hence in one of the longest track networks on Australia's east coast.

### Northwest rail link

Up to now, slab track has been limited to short sections in Australia – if it was used at all. For this reason, the experience and competence of local track construction companies is rather limited. When a slab track system had to be installed in the north-east of this huge continent, Rhomberg Rail was able to impress with exactly this experience and competence. A monoblock sleeper system with a base plate by Delkor and E-clip fastening by Pandrol was installed. The in-house developed and patented RhoPPS, RhoFAS,

Hergie and DigiBAR systems were used to adapt the above sleeper system, with all four systems making a strong impression on the customer. The systems had been modified by RTE and the Dornbirn yard; details of the installation method were discussed with colleagues from railway engineering during the bidding and work preparation phases. Since May, three construction units have been involved in the project and support for the survey work on site is being provided by RTE.



Slab track down under – down under Sydney: impressions...

### Hunter Valley

The task: installation of IVES and V-TRAS in one of the longest track networks at Australia's east coast. The project involves the installation of a slab track system with up to 30 tonnes axle load in possession periods of between 62 and 96 hours along the very busy freight transport line for the long-term customer ARTC (Australian Rail Track Corporation). The background to this is that ARTC has track scales installed at special places in its track network, which measure the axle loads of the fully loaded coal trains travelling at speeds of up to 65 km/h. These track scales are currently installed in the ballast roadbed and require extensive maintenance work, because measurements can only be carried out correctly when the trucks run very smoothly and without jerking. For this reason, the installation of slab track has been considered; this would

involve replacing the ballast roadbed with a low-maintenance slab track, which would also ensure very quiet and regular running of the vehicles.

The solution: taking into account the short installation windows, the customer has opted for the IVES system by Rhomberg and for the V-TRAS transition modules. However, currently these systems have only been approved under European load conditions. For this reason, and as a first step, the systems were modified for the Australian requirements; type approval has been applied for. However, in order to be able to prepare the installation at this stage already, our Australian colleagues have established a kind of triangular communication between Austria, Britain and Australia. This makes it possible to access as much knowledge and experience as possible for the benefit of the project.



...of the installation of slab track in Australia's longest railway tunnel.

# Slab track in winter

// Hohenthurm/Halle: Rhomberg Sersa Rail Group masters the challenge

The installation of 4 700 metres of double line slab track using the Getrac A3 system in Hohenthurm at Halle (Saale) was a challenge: a construction period of 111 days, with shifts working around the clock in order to complete the line in cold winter and under enormous time pressure – you don't experience that very often. However, Rhomberg Bahntechnik, Jumbotec, RS Gleisbau,

Sersa and the consortium partner, GP Günter Papenburg, did not work up a sweat because of this tight schedule or the vagaries of the weather.

Even though the weather contingencies allowed for by the contract – 28 days between +/-5° C and 14 days under -5° C – every day had to be fully utilised. Rhomberg Sersa succeeded in completing the contract on time with

strong commitment from the entire team. "Flexibility and solution-oriented work" were the words chosen by the DB project management (client).



After a warm winter the trains now run on slab track.



With a flexible and solution-oriented approach, Rhomberg Sersa installed the new slab track at Hohenthurm.

# Success breeds success

// With "Grail1" Rhomberg Sersa Canada has built up the perfect rail grinding system for North America

With the ideal machine and a continuous value-creation program, the Canadian subsidiary of the Rhomberg Sersa Rail Group is currently impressing customers in its home market. The core of the system is a small, specialised rail grinding machine nicknamed "Grail1", which was built in Germany. With its small size and slender profile, it is the perfect machine for carrying out light grinding work on underground and city railway lines. Based on "Grail1", the proud owner has built up a continuous value-creation program: in 2016, a 40 foot sea container was purchased and modified for the storage and transport of the equipment and machine. In addition, the container was equipped with

a fully functioning workshop for the repair and servicing of the grinding machine after the shifts. In February 2017, four senior employees of the Canadian branch were sent on an intensive one-week special training course at the manufacturer's in order to be able to achieve truly outstanding results with the machine. The initial result: now Rhomberg Sersa Canada is supporting many satisfied customers with its special rail grinding business, from the Toronto Transit Commission's (TTC) Streetcar Way through to the OC Transpo, Ottawa's commuter railway.



Thanks to its small size and slender profile, the "Grail1" is the ideal grinding machine for underground and city railways.



# Many years of partnership

// Stern & Hafferl opt for the BBW Group's services



**Customer loyalty must be earned. It is all the more satisfying when such loyalty then grows into a strong partnership that lasts decades. Universale Bau has been doing construction work for Stern & Hafferl Verkehrsgesellschaft m. b. H. since 1990. In the latest turn of events, the subsidiary of Bahnbau Wels GmbH secured a long-term master contract with this private railway operator.**

The contract includes track construction work on Y-steel, concrete and timber sleeper track, the installation of switch points, ballast cleaning operations, track tamping, as well as substructure and cable installation work. Throughout the previous decades, Universale has been working on a number of projects, such as substructure repair for track construction and platforms, culverts, mast poles for catenary and reinforced concrete retaining walls. From July to August 2017, the track construction company has scheduled work such as the construction of Hitzing station, substructure repairs along the local Linz railway line and new track construction with Y-steel sleepers along the Traunsee railway line in Gmunden.

Bahnbau Wels GmbH too has for years been carrying out mechanical track construction work, primarily tamping work, on normal gauge networks for various private railway operators for years.

Universale Bau - a competent partner in commercial track construction



# An exciting project

// Rhomberg Bahntechnik converts medium-voltage systems at Düsseldorf's main railway station – without any service interruption

**As part of the technical modifications at Düsseldorf's main railway station, DB Energie GmbH has called upon Rhomberg Bahntechnik for the renewal of three medium-voltage systems from Driescher (SF6) and Siemens Fernwirkanlagen (60V).**

Our challenge was to replace transformers and other equipment without any interruption to the service", explains Kai Ziegler, Managing Director of Rhomberg Bahntechnik in Essen. The traffic density at this intersection for both local and long-distance trains in North Rhine-Westphalia is immense; the State capital's main railway station is used by about 250 000 passengers daily. "This means that we have to guarantee an uninterrupted power supply at all times", explains Kai Ziegler. "For this purpose, and in consultation with DB Energie, the site management crew and the power utility, a special switch concept was developed." Another difficulty was that some parts of the equipment weighed more than 1,5 tons and due to the size, it necessitated making openings in the walls, move and widen



Arrived: the new transformers at Düsseldorf main railway station.

doors, passageways and even staircases. Some components had to be taken apart and reassembled on site, because of limited space at the station. "The working conditions required highly qualified and competent specialist technicians, as well as special logistics and safety measures", Kai Ziegler further summarises.

It is certainly a double advantage for this company of the Rhomberg Sersa Rail Group that in parallel a second contract was awarded at the Düsseldorf main railway station for the

renewal of lighting of the underground. "This makes it possible for us to mobilise synergies and achieve greater flexibility in our work", promises Kai Ziegler. It also means that, by mid-2018, the customer can look forward not just to a new, fully functional lighting system, but also to cost savings.

” This will give us the chance to use synergies and to act very flexibly in our work.

“



**Kai Ziegler**  
Managing Director  
Rhomberg Bahntechnik Essen



# From the inside out

// In the Albula tunnel, Rhomberg Bahntechnik has managed to drive a tunnel in extremely confined conditions

”

Often we used to play a kind of Tetris game with our excavators, machines and the spoil material.

“



**Thomas Mäser**  
Site Manager

The colleagues knew what was coming their way – already when the first Albula tunnel tube was built at the beginning of the 20th century, the contractors faced the difficulty of having to drive the tunnel through about 20 metres of sheer sand. When the contractors put the second tube out on tender, the "sand in the gears" was already well known. The problem was expertly solved by freezing the respective layer. "For us, the challenge was quite a different one", remembers Thomas Mäser, Project Manager at Rhomberg Bahntechnik. "We drove our first tunnel not from the outside, but from about

1 300 metres deep inside the mountain." This further strained logistics – for example, the workers had to walk the distance on foot to their workplace – and the organisation on site was tremendously complex. "We often had to play a kind of Tetris game with our excavators, machines and spoil from the cavity where we were working", laughs Thomas Mäser. With success we managed to arrange everything correctly and leave behind a cleared site.

# Sersa logo across Saxony

// Railway infrastructure specialist keeps the Free State of Saxony's rail network fit

**Over the last five years, Sersa has been involved in more than 20 construction sites in Saxony. Even more than 80 kilometres of track and nearly 150 switch points have been reconstructed, modified, cleaned and maintained – along long-distance lines and in railway stations, as well as for trams, under contract of the Deutsche Bahn as well as for private rail operators such as Weißeritztalbahn, Dresdner and the Leipziger Verkehrsbetriebe.**

The company is responsible for a significant number of the track construction projects in this Free State.

As a result, the Sersa logo can be seen time and again also in inner city areas in Dresden and Leipzig. These projects are always highly demanding, because they follow a tight

schedule and are in the public eye. Sersa is now looking forward to new projects, such as the line upgrade between Berlin and Dresden, and the overhaul of the Augustus bridge in Dresden.

"Reliability, cost-efficiency and quality – these are the values that have convinced our customers to prefer us", explains Georg Gabler, Managing Director of Sersa in Germany. "For us, partnerships and effective cooperation with customers, partners and companies of our own corporation have always been the foundation of a successful project."



More than 20 construction sites in 5 years; the machines of Sersa in Saxony have made a significant contribution to the Free State's infrastructure.

# Collaboration at a world heritage site

// Companies from the Rhomberg Sersa Rail Group joined forces to widen the Glatsheras tunnel's tube profile

There they stood – the two tunnel portals as good as new and reconstructed in the original design. The only difference now is that the tunnel's cross-section is 20% larger and kept as throughout the 334 metre long tunnel. Rhomberg Bahn-technik and Sersa jointly carried out the contract – with the help of survey technology from RTE (another subsidiary of the Group). At the end of 2016, the tunnel was in a perfect condition and handed back to the Rhätische Bahn.







# Shunting yard back on track

// RS Gleisbau modernises shunting facility in Halle

**As part of the large project "Deutsche Einheit No. 8", RS Gleisbau secured another exciting contract: the modernisation of the shunting facility in Halle (Saale).**

The contract includes the removal of 35 000 metres of track, construction of 38 000 metres of new track and 102 switch points. The biggest chal-

lenge was the absolute precision of the track's position, which had top priority for the client, DB Projektbau GmbH. This was required because of the installation of state-of-the-art shunting technology and the narrow track clearances. RS Gleisbau had to rely on survey measurements done, whilst tamping.

The shunting yard was close to the centre of the capital of Saxony-Anhalt, and hence at an extremely busy intersection. The modernised technology installed here had truly put this shunting yard back on track for future demands.

# The final spurt

// VDE 8.1 ready for commercial operation.

The electrification of one of the flagship projects in the Trans-European Rail Transport is in its final stretch; The 107 kilometre long section of the transport project "Deutsche Einheit No. 8" between Ebensfeld and Erfurt is now undergoing testing. On some parts, speeds of up to 300 km/h had been achieved. On 10 December 2017, commercial operation is scheduled to start and Rhomberg Bahntechnik's involvement in this project is significant. The company has supplied all safety lighting for the tunnels, energy supply to all 22 tunnels, emergency power supply for the 6 ESTW and 17 GSM-R stations, as well as the 16.7 Hz switch point heating system and is proud to have been part of this enormous project drive.



# Excellent service: secures follow-up contract for Sersa BV

// In "Waalhaven", RET relies on a well experienced team.

What started last summer at the Metro Remise in Rotterdam – the first construction phase in which 13 switch points, 400 metres of track and 2 450 tones of track ballast were replaced – continues in 2017. The new contract consists of installing 17 switch points, constructing 200 metres of ballast track, renewing ballast substructure and the technical overhaul of the conductor rail. "To receive a follow-up contract immediately after completing the last one is of course the highest form of praise for us", says Gerfried Thür, CEO International and Projects at the Rhomberg Sersa Rail Group.



”  
The highest  
form of praise.

“



**Gerfried Thür**  
CEO  
International



**Rhomberg Sersa Rail Holding GmbH**

info@rhomberg-sersa.com

www.rhomberg-sersa.com

Austria

Mariahilfstrasse 29

6900 Bregenz

T +43 5574 403 0

Switzerland

Würzgrabenstrasse 5

8048 Zurich

T +41 43 322 23 00

