KIROW CHRONICLE

KIROW / XL SAFETY – RAILWAY CRANES, TURNOUT RENEWAL EQUIPMENT – SLAG AND HOT METAL CARRIERS

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THE KRC 1200 IN THE HEART OF PARIS

The French railway operator SNCF has accepted the proposal put forward by the track-laying company TSO to use the KRC 1200 for track-laying work in the C/RER line tunnel near the Eiffel Tower.



The old tracks were removed quickly and safely, special foundation work was completed and the new tracks were subsequently installed. With the help of the Multi Tasker, an approx. seven metre-wide crossing section weighing 38 tonnes was replaced with millimetre precision inside this city tunnel.

The construction site was located at the foot of the Eiffel Tower on a high-traffic railway line between the station "Invalides" and the road bridge "Pont de l'Alma", so it was extremely important to keep the line closures as short as possible. The Kirow crane made it possible to lay the points in a single operation, minimising the disruption and ensuring that normal rail traffic could be resumed within a very short time.

The size and weight of the cross section made the working conditions more difficult, although this was no problem for the Multi Tasker. Without the new machine, it would have been necessary to disassemble the turnout and transport it in several parts, which would have required longer line closures and negatively impacted the quality.

In addition, the Kirow railway crane, which represents a new milestone in operational safety, helped to ensure safe operation at the site. The staffing requirement was also low, which further increased site safety. In order to complete the installation work, the ground crew only had to attach the new crossing section to the traverse and remove it again after transport and positioning The rest was done by the crane alone.

The Multi Tasker mastered this challenge to the customer's total satisfaction and worked quickly and safely in the tightest of spaces inside the tunnel. Everyone did an excellent job.

Flexibility of this kind is a valuable asset that can certainly no longer be taken for granted. Big thank you to all involved parties!





THREE NEW SLAG POT CARRIERS FOR THE STEELWORKS IN DUNKIRK

ArcelorMittal, the world's largest steel producer, operates one of the largest plants in Europe in Dunkirk.

France's northernmost city, Dunkirk is located directly on the English Channel and only a few kilometres from the Belgian border. Until recently, three Kirow slag pot carriers, each with a payload of 80 tonnes, took care of the slag pot transport at the steelworks.

SGA, the new service provider has now laid foundations for the future by opting to use larger vehicles from Kirow. The company is a joint venture between Phoenix, a global steelworks service provider, and the French construction group Eiffage.

The decision to procure three Slag Taurus P 95 vehicles was based on the company's excellent experience with Kirow transporters at other locations. In particular, the decisive factors were high operational safety and reliability in conjunction with low life-cycle costs, an increasingly important feature in the steel industry due to fierce competition and intense cost pressures. The three new Kirow Slag Taurus P 95s have a payload of 95 tonnes in continuous operation and 105 tonnes in standalone operation. This will enable the operator to react to any future increase in the steelworks capacity.

The Kirow Slag Taurus P 95s are equipped with modern 280 kW diesel engines and are the first slag pot carriers in Europe to meet the Tier 5 exhaust emission standards for industrial vehicles. Kirow is thus underlining its technological leadership as well as its environmental responsibilities as a manufacturer.

The Kirow safety concept has already convinced many other customers worldwide and has proven itself over many years. With the three new vehicles in Dunkirk, Kirow is also expanding its presence in this payload class.



THE WHISPER MOBILE – THE SILENT SLAG TAURUS – DECREASING NOISE EMISSIONS FROM STEELWORKS

The Lech-Stahlwerke (LSW) in Meitingen are the only remaining steelworks in the Free State of Bavaria. With two electric furnaces and an annual production capacity of up to 1.2 million metric tonnes, the company produces and sells carbon and structural steel as well as reinforcing steel with great success. Its main customers are companies from the automotive, mechanical and plant engineering sectors as well as the construction industry.

Steel production in Meitingen also produces a large amount of slag, which must be transported in liquid form, processed and for the most part landfilled due to a lack of suitable sales opportunities.

Slag Taurus P 50 slag pot carriers from Kirow have been in use at Lech-Stahlwerke since 2009. Due to increasingly stringent noise protection requirements – the plant is located near the village of Herbertshofen – the use of conventional machines became a growing problem for LSW. Noise emissions during night shifts were a particular issue.

The first sound-insulated slag pot carrier, the P 50 from Kirow, was therefore put into service as early as 2013 following a cost-intensive but far-sighted decision to help maintain operations. With a noise level of only 72 db(A) at full engine speed, noise emissions were suddenly no longer an issue for the local residents and the whisper mobile immediately became the backbone of the site's slag-disposal operations. The entire traction unit of the slag pot carrier had to

be completely redesigned by the Kirow engineers. All intake air as well as all exhaust air from the radiator or drive is deflected several times by means of a sonic-capsule solution. The entire engine compartment containing the noisy components, such as fans, diesel engine, transmission, hydraulic pumps, etc. had to be hermetically sealed using newly developed covers.

The approx. 100 millimetre thick walls of the sound insulation hood are specially lined with sound-absorbing material. Nevertheless, the engineers needed to pay close attention to the accessibility of the components. All filters were therefore combined and installed in a manner that ensured they were easily accessible. The acoustic enclosure can also be opened hydraulically via a system adopted from the standard Slag Taurus.

As a result of the positive feedback on noise reduction, high operational availability and very low operating costs, an additional Slag Taurus P 50 whisper mobile was ordered from Kirow by Lech-Stahlwerke



in 2018 and delivered after a one-year construction period. Due to changes to the exhaust emissions legislation, a new diesel engine with urea injection and extensive exhaust aftertreatment was used.

The new "Schlacki" is powered by a 9-litre Caterpillar industrial engine that generates 224 kW/300 hp. With this engine, fuel consumption is reduced to approx. 14–15 litres per operating hour, which significantly reduces operating costs and underlines the sustainability of this investment. Despite the sonic capsule, the vehicle was designed to be very compact for the narrow conditions in the factory. Thanks to a length of only 10.8 metres, a width of 4.2 metres and a steering angle of \pm -55 degrees, all positions can be approached with ease.



FRESH BREEZE IN BALTIC SHIPYARDS – KIROW IS PART OF THE ACTION WITH ANOTHER MULTI MOVER IN STRALSUND

Kirow's product portfolio has included shipyard transporters since 1997. The first of these was delivered to the former Volkswerft Stralsund right on time to mark the shipyard's opening, thereby establishing the Multi Mover series.

A second identical vehicle followed in 1998, which could be coupled with its sister vehicle so as to transport large sections of ships in tandem or longitudinally coupled in the yard. At that time, Kirow was able to prove that completely new machines can be developed in a very short time, thereby allowing complex additional requirements to be fulfilled too.

Another vehicle was delivered in 2008, although this was not identical in design owing to technical progress and the customer's more stringent requirements. The order for a second vehicle with coupling capacity was long delayed owing to the difficult economic situation the shipyard found itself in. At the end of 2018, the fourth vehicle could be handed over to the yard. January 22, 2019 then witnessed this vehicle undertaking its first load deployment in conjunction with the vehicle supplied in 2008.

The legal framework conditions and safety requirements have changed in the ten years between the commissioning dates. Core components were discontinued by their suppliers. This resulted in far-reaching changes to the control system, new brake axles were used and a diesel engine had to be used corresponding to the applicable exhaust level. At the same time, the complexity of the systems become much more diverse.





↑ Operation in bad weather is normal routine: Here a side element of a cruise ship belonging to the Global Class is transported from the paint shop to assembly. Weighing 330 tonnes, this section is a relative lightweight, though the dimensions are challenging at 26 metres x 36 metres.

The control system of the vehicle delivered in 2008 also had to be updated so as to enable coupled travel to be mapped reliably in interaction with the new vehicle.

Even though completion of the two vehicles was really demanding, everyone involved can rest assured today – more or less one year after the handover – that their work has paid off with excellent results. The vehicles are operating without fault at the customer – to everyone's complete satisfaction.

Since having been integrated in the MV Werften Group, large sections for cruise ships have been built in the former Volkswerft, which are delivered to the Wismar and Warnemünde sites by pontoon. Ships of the Endeavor Class are built at the Stralsund site, the first of these set to be launched on December 21, 2019.

This class does not involve conventional cruise ships but rather mega-yachts, which are equipped for both the tropics and polar regions alike thanks to their design and additional equipment.

With around 50 coupled travel deployments and more than 100 individual journeys, the Kirow Multi Mover have certainly played their part.

COMMITTED PARTNERSHIP – COOPERATION BETWEEN MÖSER AND KIROW

Since 2019 the Metro Grinder C | Ro-V149.3 has been manufactured at Kirow. This is a product of the company Möser Maschinenbau GmbH, which also sells the machines under its own name.

RAIL-GRINDING VEHICLES

Rail-grinding vehicles are primarily used for the maintenance of rail networks. Depending on their equipment and performance, they are able to remove or significantly reduce wear phenomena by grinding, for example, corrugations (waves formed by erosion and crushed particles), short and long ripples, burrs, break-outs, head checks and skid spots.

At the same time, the original rail profile is restored in facets. As a result, wear and tear on vehicles and rails as well as noise emissions from rolling stock are reduced. Regular use of these and other measures leads to considerable savings by extending the service life of the railway vehicles and the rails alike.

While high-performance grinding trains with high processing speeds can be used profitably on long stretches of mainline railways, more compact and flexible technology is required for tram lines, metros and shunting yards. The focus here is on narrow gauges, short overall lengths and the possibility of independent and rapid derailing and re-railing, as typically only narrow entrances, scarce storage space and short machining windows are available. In some cases, work must be carried out during ongoing operations – in some cases, for example, the vehicle must be derailed every 10 minutes to allow a train to pass through.

THE METRO GRINDER C

With its flexibly adjustable rail undercarriage track and six variably equipped grinding units, the Metro Grinder C is also used as a road-rail vehicle on the basis of its well-known Multicar for the grinding of switch areas at freight stations, and especially on tramlines and metro networks as well as for mainline railways.

The basic requirement for these tasks is its very compact dimensions: 5.15 metres length x 2.02 metres width x 2.58 metres height. Nevertheless, in terms of complexity and diversity, the technology used in this vehicle is by no means inferior to that found in other products manufactured by Kirow – the diesel engine, pneumatics, hydraulics, power electrics and electronic controls all share an extremely narrow installation space. Furthermore, all components must withstand aggressive environmental conditions – in particular, grinding dust and sparks can damage surfaces, guides and joints. Besides performance and quality, therefore, fire protection, corrosion protection and accessibility were the main focus areas during development of this product.

THE MÖSER / KIROW PARTNERSHIP

Above all, Kirow is able to contribute suitable production facilities, qualified employees, up-to-date production documentation and expert support for further development and approval processes.

This improves the quality of the rail-grinding vehicles, which is reflected primarily in greater reliability, interchangeability of components, as well as shorter response times for the supply of replacement components. Kirow's experienced specialist engineers can produce typical calculation documents for rail vehicles within a short period of time, which considerably simplifies and shortens approval processes worldwide.

Möser can therefore concentrate on sales and is well equipped to meet international requirements. It assumes responsibility for product development by introducing the respective requirements and monitoring the presented solutions. In addition, it organises the deployment of rental machines with the necessary personnel, as well as user training and customer service.

ORDERS BACKLOG / PREVIEW

This intensive partnership has enabled Möser Maschinenbau to sell up to five rail-grinding vehicles per year despite intense competition. The current project preview identifies sales opportunities all over the world, including in Turkey, the Philippines, the Eurasian Customs Union, Brazil, India and, of course, the EU. The current order book includes five machines.

One of these vehicles is earmarked for Harsco Great Britain, having been completed in August. Owing to additional customer wishes, however, it will remain in Leipzig for several weeks. Meanwhile, the training of the maintenance and operating personnel is underway.

Another vehicle will be completed at the end of October and will be used on the African continent. Further vehicles are in production for Southern Europe, Eurasia and Asia.

TIER V EMISSION STANDARD

A particular challenge for the next few years is the conversion of the generator units from compliance with the Tier IIIA exhaust emission standard in accordance with 97/68/EC to the Tier V standard in accordance with (EU) 2016/1628. While other applications had to adapt their technology step by step and achieved ever better emission values via increasingly complex technology, the requirements for mobile diesel generator units have so far not been adapted due to their uniform operating mode.

As a result, the impact of the current changes are even more profound – on the one hand, the price per unit is more than doubled and on the other, considerably more installation space is required to accommodate the components of the exhaust aftertreatment system.

The conversion work is being supported by the engine developers, since the new installation solution must be validated. While transitional rules apply for the period from 1st January 2020 to 30th June 2021, all vehicles built from the second half of 2021 must already be equipped with diesel engines that comply with the Tier V emission standard. The new regulations will be implemented in the second half of 2021.

As in other applications, the engine manufacturers are not yet able to offer a concrete solution in this case, making it likely that the time window for



integration of the new design will be rather short. However, Kirow will also be able to contribute its experience here.

PROTOTYPE

Parallel to contract manufacturing and detail development, Kirow is engaged in the further development of the Metro Grinder C.

While retaining proven principles, the new machine will make use of state-of-the-art basic components. For example, a more modern cab, new drive and control technology and a more maintenance-friendly machine architecture have been selected. However, the dimensions will not change significantly.

Depending on the available production capacity, the prototype is currently scheduled for completion in mid-2020. The aforementioned changes to the emission levels of the diesel engines will then coincide with the model change in subsequent production.



↑ The Metro Grinder C is also suitable for the mainline railway.

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DISCOVERED IN GREECE – TWO 50 TONNE CAPACITY GAN-TRY CRANES FROM UNRUH & LIEBIG

When a service team from Kirow visited an OSE depot in Piraeus, Greece, they unexpectedly came across a piece of their own company's history.

Two gantry cranes with a load capacity of 50 tonnes manufactured by the company Unruh & Liebig in 1936 were installed on the hall ceiling at the depot. Unruh & Liebig was the founding name of our company in 1880, before it was renamed as Kirow in 1954. The cranes still have their original engines and impressive framework construction.

Even after more than 80 years they still work reliably and are regularly used for maintenance work on locomotives and Kirow railway cranes. The OSE employees, unaware of the connection between Unruh & Liebig and Kirow, were delighted with this turn of events and praised the cranes for their high load capacity and excellent reliability.

NEW RAILWAY CRANES DELIVERED FOR THE SBB

SBB modernised its fleet of bridge cranes between 2016 and 2019. The two Kirow KRC 800s delivered in 1996 were replaced with a Multi Tasker 1200 with double slewing ring and a Multi Tasker 1100 with compact counterweight. The Multi Tasker 1200 has a 50 % higher load capacity than the previous generation of cranes. With a typical



The two gantry cranes can be used individually or in tandem.



↑ The original type plate from 1936

bridge overhang of 12–15 metres in front of the buffers, it can lift 60 / 49.5 tonnes compared to the 38 / 32 tonnes of the KRC 800. The boom can swivel separately from the counterweight so that traffic on the neighbouring track is not obstructed during construction work.

The same is possible with the Multi Tasker 1100, which can rotate up to 16° without leaving the profile of the working track due to its special angled counterweight shape, and thus has a lateral working range of up to 7.5 metres with a radius of 27 metres. Thanks to the triple telescopic boom, both cranes can also lift heavy loads of over 100 t, making them ideal for use by accident rescue services.

At 09:00 on 9th July 2019 it was time for both cranes to carry out their first major joint assignment. At Lake Zug, on the track section between Goldau and Walchwil, a new

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bridge with a weight of 65 t and a length of 35 m was installed as part of the project to extend the double track of the Goldau – Zug line. The construction process was as follows:

The prefabricated bridge was delivered and elevated next to the railway embankment. Then support bases were positioned for the crane supports – thanks to the modern controls of the two new cranes, only two diagonally positioned supports were required in each case.

After slewing to the side, lifting its load and slewing back onto the track axis, the leading crane and its load were moved over an existing bridge structure. The construction company benefited from the fact that the crane with telescoped counterweight has low wheel loads.

At the installation site, the new bridge was pivoted over its destination site and lowered onto the bridge bearing with millimetre precision.

The installation engineer and the crane operator communicated via hand signals. The working movements of the crane were extremely flexible and highly productive; by 10:05 the new bridge had been installed.

As a result, SBB were extremely satisfied – the two new Kirow Multi Taskers had completed their first joint deployment in exemplary fashion.

INFRABEL EXPANDS ITS SWITCH INSTALLATION SYSTEM

In 2015 Kirow delivered a KRC 1200 to the Belgian state railway company, Infrabel.

The crane features a double slewing ring, which allows the boom to swivel while the counterweight remains in the track direction, keeping the adjacent track open to traffic. Together with its high load capacity of 40 tonnes at a radius of 28.5 metres, this makes the crane ideal for laying long and heavy switch segments in urban areas.

In combination with Infrabel's switch transport wagons, which transport prefabricated switch segments directly to the construction site, the



↑ The KRC 1200 and KRC 1100 position the bridge over the bridge bearings.

KRC 1200 forms a switch installation system that guarantees a justin-time process and thus minimises line closures.

The new crane has already become an integral part of Infrabel's switch conversion plans, and in December 2018 the decision was taken to continue this success story with an order for an additional KRC 1200, due in part to the steadily increasing number of switches requiring replacement.

The crane is currently in production and will be in action on the Belgian rail network from summer 2020.

Infrabel's KRC 1200 is used to unload switch segments from the switch transport wagon (see picture at top right). The traverse belonging to the crane includes the option to move the bottom hook block, allowing the centre of gravity of the attached switch segment to be balanced. This represents a decisive advantage when unloading from the switch transport wagon, especially under an overhead contact line, as the required lifting height of the crane is minimised.

FOUR RAILWAY CRANES FOR BANGLADESH

The word Bangladesh is an amalgamation of Bangla (Bengali) and Desh (country). In terms of population, the "Bengali country" is the eighth largest country in the world with around 165 million inhabitants – however, it is only 92nd in terms of surface area. The capital, Dhaka, is one of the fastest growing megacities in the world.



↑ KRC 1200 of Infrabel

Bangladesh occupies the eastern part of the Bengal region, whereas the western part of the region forms the Indian state of West Bengal. While the border that was drawn between Bangladesh and India during the division of 1947 was designed in accordance with the religious majorities of Hindus and Muslims, a natural border runs through the middle of Bangladesh.

At 3,100 kilometres, the Brahmaputra is one of the longest rivers on earth and the most abundant in Asia. Its source is located in Tibet, where the river bears the name Matsang.

The most important road and railway bridge over this river in Bangladesh is the 4.8-km-long Jamuna Bridge, which was only opened in 1998. The railway, built by the British during colonial times, has a gauge of 1,676 mm (5 ½ feet) west of Brahmaputra and 1,000 millimetres east of Brahmaputra. The 1,000 millimetres network then continues into the eastern neighbouring country of Myanmar.

In 2012, Kirow supplied one railway crane each for both networks – a KRC 800 N for the narrow gauge and a KRC 1500 B for the broad gauge. The order included delivery to the Bangladesh Railways depot. However, since Bangladesh has only one deep-sea port at Chittagong, both cranes were delivered there. Chittagong lies east of the Brahmaputra and accordingly only has 1,000 millimetres narrow gauge tracks.

The broad-gauge crane was therefore transported in two parts by road over the Jamuna Bridge to the Parbatipur Workshop, where it was finally assembled. It became apparent that the vehicles used were too small for a bridge crossing and larger transporters were not initially available. The skilled German-Indian service team was able to routinely compensate for the resultant delay.

As early as 2015, the customer was highly satisfied with the performance of the two cranes and applied for funding for the further renewal of its crane fleet. For Bangladesh Railways there was no debate as to

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whether Kirow cranes would be ordered again next time. The invitation to tender was issued in 2017, whereupon Kirow was the only supplier to be audited in detail and ultimately approved by the financier Asian Development Bank (ADB) within the context of ensuring fair competition. The order now totalled four cranes (two one-metre gauge and two broad-gauge).

The challenges involved in their overland transport had thus doubled. This time, the bridge crossing did not present a problem, although the very sight of the transport vehicles would have given any German TÜV vehicle examiner a heart attack. The cranes arrived at their destination undamaged and on time. All that now remained was the arrival of the corresponding match wagons, which were being manufactured in neighbouring India. However, this turned out to be another challenge altogether – an even more difficult one.

The journey from Kolkata/India to Parbatipur/Bangladesh initially ran smoothly as far as the border. Then a lengthy and nerve-wracking export process – and an even more difficult import process – began. The delay lasted for three months, during which the wagons were stuck at the border and the finished cranes could not be used on the designated line section.

However, everything is now finally in place and everyone involved richer for the experience. Once again, Kirow has proven its ability to fulfil contracts even under the most challenging conditions. This positive outcome was the result of the harmonious interaction between the respective managers at the end customer, the local representative office, the logistics companies involved, the German-Indian service team and our in-house contract managing department.

The renewal of the crane fleet in Bangladesh is not yet complete and gives us hope of new adventures.

The management at Bangladesh Railways is convinced by the outstanding performance and reliability of the Kirow cranes, which can be attributed to the company's targeted product development and high-quality manufacturing.



↑ Load test on the test field. Cranes for Bangladesh.

High load capacities, low clearance gauges and low axle loads – these were the parameters for the development of the two quite different crane classes for a country with two different railway networks.

Today, Kirow cranes are deployed east and west of the great Brahmaputra river. The name Brahmaputra comes from the ancient Indian language Sanskrit and means son of Brama, the creator god.

In Hinduism today, Vishnu (the preserver) and Shiva (the destroyer) are frequently worshipped. Brahma hardly plays a role, since he has already completed his tasks...which is why we all find ourselves in the present day and age.

FIRST NEW RAILWAY CRANE SINCE 1990 AROUSES IN-TEREST IN NEIGHBOURING COUNTRIES

The modern Multi Tasker has conquered yet another country. A full 30 years after delivery of the last EDK 500, Uzbekistan's state-owned railway company "Uzbekiston Temir Yollari" (UTY) will begin operating a KRC 1200 from Kirow in the first quarter of 2020. The Uzbek railway, which currently operates a total of 19 EDKs, has thus confirmed its confidence in the Kirow crane.

The crane will serve as a rescue crane on the newly built Angren – Pap railway line. The new main line connects the densely populated region of Central Asia's Fergana Valley with the Uzbek capital, Tashkent. The mountainous operating area,



↑ Customer day Eastern Europe / Central Asia

which includes a 19-km-long tunnel, posed a special challenge during the selection process.

As well as being mobile and flexible, the new crane must also have a high load capacity and a short rigging time. The KRC 1200 can lift 150 tonnes at a radius of seven metres and slew sideways by up to 30° with the conical counterweight retracted, without interfering with the clearance gauge. The counterweight remains on the crane even during transport by train, which means the KRC 1200 can be made ready for operation at the scene of an accident within a very short time.

Once the operators had been trained and all technical requirements confirmed during customer acceptance, it was time to celebrate with friends. Railway workers from other countries with a track gauge of 1,520 mm were invited to a customer day - after all, the crane is the third Multi Tasker in use on Russian tracks.

Many railway workers from Eastern Europe seized this unique opportunity to talk shop with colleagues and get to know this state-of-theart railway crane, albeit with a certain amount of envy. The Lithuanian railway also reported on the first five years of operation of its two KRC 1600s, and other customers have already announced their own plans for the renewal of their railway crane fleets.

The rigging time is a major issue for rescue cranes. The EDKs that have proven themselves over decades need at least one hour for this. The Multi Tasker does not necessarily have to be supported for every application, however if necessary, the supports can be hydraulically extended from the cab.

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According to the stopwatch, the KRC 1200 can be made ready for use in just two minutes.

Another highlight in the customer's itinerary was a tour of Deutsche Bahn's emergency management system. The visitors had a close look at the various DB rescue trains and took away some ideas for improvement.

TAPOJÄRVI – A FRESH START WITH KIROW ST U 60 SLAG POT TRANSPORTERS IN TERNI, ITALY

Tapojärvi is an active company in stainless steel production and related areas. To date, its main focus has been in Finland, where it works with manufacturers of special steels such as Outokumpu, SSAB and Boliden to name but a few. As part of its expansion, Tapojärvi has taken over the slag processing operations, including liquid slag transport, at Acciai Speciali in Terni, Italy.

For this challenging task Tapojärvi relies on Kirow, the European market leader in this field, and has opted for the proven and reliable slag pot transporters of the Slag Taurus U 60 series as part of this new service contract.

With this additional job site, Kirow is further expanding its presence and market share in Europe, and also for slag pot transporters with a U-frame design.

As a special feature, these transporters offer the possibility to integrate an exchange adapter, allowing these vehicles to transport slag pots with varying geometries and dimensions – in this case, the respective pot volumes are 16 cubic metres and 7 cubic metres.

The vehicles' maximum payload is 75 tonnes with a dead weight of only 48 tonnes. The transporters are very compact with a length of 10.9 metres, a width of 6.6 metres and a height of 4.5 metres. The slag pot transporters are powered by the latest generation of Caterpillar diesel engines, which produce 300 hp (224 kW) and comply with the Tier 5 exhaust emission standard.

NEW SLAG TAURUS P 60 FOR SAB IN VÖLKLINGEN

For several decades the Schlackenaufbereitung (SAB) company has been active in the slag industry at Saarstahl in Völklingen. The highest level of customer satisfaction and sustainable management are at the top of its agenda.

SAB achieves these goals while ensuring commercial efficiency by using the latest technology and developing and designing environmentally friendly processes.

In order to implement these tasks successfully and reliably, Völklingen has been relying on proven Kirow technology for more than a decade in the field of liquid transport.

Its slag transport fleet was converted to Kirow slag pot carriers in 2007. Initially, three ST P 60 vehicles were used. The fleet was expanded in 2012 with an additional transporter, and this year another slag pot transporter of the latest generation will be added.

The payload of these vehicles is almost 70 tonnes, with dimensions of 11.2 metres (length), 5.2 metres (width) and a maximum height of 5.9 metres. This slag pot carrier is equipped with the latest generation of engines and Tier 5 exhaust gas treatment, with a power output of approx. 300 hp (224 kW).

EXPANSION OF THE KIROW FLEET BY ERICH FRIEDRICH AT THE SALZGITTER STEELWORKS

Erich Friedrich continues to rely on the proven and reliable slag pot transporters from Kirow at its Salzgitter location. They have been in use at these steelworks for almost two decades – in two sizes for different tasks.

A Slag Taurus P 50 is employed to transport the residual slag from the ladles, while a Slag Taurus P 80 transports the converter slag.

The existing fleet will now be supplemented by an additional unit from the Slag Taurus P 80 series. This new vehicle includes a comprehensive options package that significantly increases efficiency and provides even greater safety for both operator and machine.

In addition, the latest version features an overhead slag pot platform at ground level. Our continuous development of the vehicles in collaboration with our customers has resulted in an optimal price-performance ratio – above all thanks to exceptionally low operating costs.

The new Slag Taurus is powered by a Caterpillar diesel engine which produces 375 hp (280 kW) and complies with the latest Tier 5 exhaust emission standard.

The pot volume is 18 cubic metres, giving a payload of 80 tonnes. The vehicle's dead weight of 77 tonnes is distrib-uted over a length of 12.8 metres, a height of 5.5 metres and a width of 4.8 metres.

ONE MORE SLAG TAURUS U 60 FOR KAZCHROME

Following the delivery of the first four transporters in 2011, another ST U 60 has now started its journey to Kazchrome in Kazakhstan. Kazchrome is one of the world's largest exporters of chromium, which is used as an important additive in the production of special steel grades (predominantly stainless steels). For this customer, the on-site conditions have made the special U-frame design necessary.

For example, the height under the furnace, where the pot is picked up and set down by the slag pot carrier, must not exceed 3.7 metres, while the height of the pot itself must not exceed 3.7 metres.

As a solution, Kirow has developed a slag pot carrier which meets this requirement by driving around the pot instead of positioning it above the wheels, as is the case with the platform version. Since the wheels are arranged laterally in accordance with this design principle, the overall width inevitably increases.

With a length of 10.7 metres and a width of 6.0 metres, the dimensions result in a very compact vehicle with a dead weight of 52 tonnes.

The engine power is 300 hp (224 kW), which results in very good driving performance thanks to a total vehicle weight of around 102 tonnes.

For delivery to the customer, the slag pot transporter can be dismantled into a total of eight easily manageable partial modules weighing between two and eight tonnes.

This guarantees simple, trouble-free transport as well as fast and safe assembly on site.



↑ A Kirow Slag Taurus U ready for transport for the trip to Kazakhstan

HIGH-PROFILE VISIT AT KIROW – THE RAILWAY ENGINEERS' ASSOCIATION (REA) HOLDING A MEETING IN LEIPZIG

The Railway Engineers' Association was founded in the UK in 1969 and is an Association of Railway Engineers who hold senior positions in the management of railway infrastructure and industry. Aim of the Association is to enable members to maintain contact socially and professionally and to receive and exchange information about technical and other developments in the Railways. While the Association was purely British for many years, members from Germany, Switzerland and Austria have also been accepted in recent years.



[↑] Enjoys the Sphere

The Association meets each year – always at a different location and under the chairmanship of a different member. In October this year, Ludwig Koehne had the honour of welcoming the members and their partners to Leipzig for a weekend visit, marking the association's first annual gathering in continental Europe.

After an entertaining and typically German opening dinner on Friday evening, the members met on Saturday morning at Kirow to hold their official REA meeting. In addition to organisational and official topics, there was lively discussion about the differences in network expansion between the UK and Germany. The starting point was a lecture by the German railway operator, Deutsche Bahn.

Afterwards, the members (and also some interested partners) had the chance to visit the Kirow production halls. Following a demonstration of a KRC 1200 at the Kirow test facility, the first of the various activities planned for this particular day was concluded with lunch in the Kirow canteen.

Back at the hotel and reunited with their accompanying partners, who had spent the morning at the famous Leipzig Zoo, the visitors were then given the opportunity to take part in a guided tour of Leipzig's city centre. They learned many interesting facts about the recent and ancient history of the city, and were also given some insights into Leipzig's cultural diversity at the art museum.

After a rather short break, the highlight of the day and the weekend followed – the REA dinner. For this, everyone headed back to Kirow, where the guests were able to admire the construction progress of the Sphere during a champagne reception. Smaller adventures, such as rides in the construction site elevator and coping with ladders while wearing evening dress, provided plenty of excitement and entertainment. The crowning event of the day was a sensational dinner at the Heiterblick Café, where Kirow's star chef Tibor Herzigkeit once again demonstrated his fabulous culinary skills.

On Sunday, those visitors who still had some energy left after the first two eventful days enjoyed a guided tour of Leipzig's Monument to the Battle of the Nations (Völkerschlachtdenkmal).

We would like to thank all our guests for visiting us in Leipzig and for their energy, interest and good spirits which enriched the weekend.



↑ Crew in the Zoo



↑ Leipzig's Monument to the Battle of the Nations



↑ Dinner Party at Kirow's

THE COLOUR RED – RUPPRECHT GEIGER MEETS OSCAR NIEMEYER

The highlight of the 2019 exhibition season in Hall 9 on the grounds of the Techne Sphere Leipzig was undoubtedly the "Geist und Materie" exhibition by Rupprecht Geiger.

Born in Munich in 1908, Rupprecht Geiger was a painter and trained architect who first explored the use of the colour red. His greatest ambition was the unreserved propagation and representation of ,,colour energy".

After initially working as an architect, Geiger increasingly devoted himself to painting from 1946 onwards and discovered silkscreen printing, which he considered "his" printing process, at the beginning of the 1950s in order to prepare the way for the representation of colour. In 1952 he experimented for the first time with fluorescent pigments and developed a wide range of colours that tested and extended the limits of what we perceive as red.

For Geiger, the colour red was always more than just one colour among many – his quote "Red makes you high" shaped most of his works. Rupprecht Geiger considered red an exemplary pure colour that dominates human vision. "Red wants to spread, to fill the space" – this thesis inspired Rupprecht Geiger to create walk-in colour spaces – one of his many parallels to Oscar Niemeyer.

Similarly, Oscar Niemeyer also preferred the colour red as a means of designing contrast and colour effects in architecture – his most famous example is certainly the spectacular, winding ramp leading into the Museum of Niteroi.

At the Auditorium Ibirapuera, the walkways and entrance canopy, as well as individually coloured interior walls, were also designed in bright red tones by Oscar Niemeyer.





Gallery rooms with the exhibition "Geist und Materie"

Besides their preference for the colour red as a central element in their artistic work, Oscar Niemeyer and Rupprecht Geiger were born in the same year, enjoyed a passionate artistic life and lived for over one hundred years. They were both born in 1908; Rupprecht Geiger died in 2009, while Oscar Niemeyer died shortly before his 105th birthday in 2015. Both men were still working until shortly before their death.

Geometric and contrasting forms play an important role in the work of both Rupprecht Geiger and Oscar Niemeyer. "Pinc Contra Orange" by Rupprecht Geiger places a pink-coloured circle on a warm red square – at the National Congress in Brasília, Oscar Niemeyer placed two round partial spheres ("bowls") on a strongly contrasting horizontal bar.

Even though the two men never met in real life, Rupprecht Geiger admired the great architect Oscar Niemeyer. The two artists and their works are connected by bright and luminous reds, strong contrasts, the interplay of round and straight forms as well as vitality and joy as an essential artistic element.

Posthumously, the two men have finally been united in Germany: the Niemeyer Sphere by the Brazilian architect, which is currently being constructed at the Kirow factory site, perfectly embodies these elements. As an observatory, the spherical building creates a rich contrast atop a severe, reddish concrete shaft. Balancing white on red and round on square, it transforms the factory's appearance into a life-affirming architectural landscape, from which visitors can sit back and watch the cloud formations in the sky – with a cool drink in their hands, ordered from the white bar set against a bright red wall.

The Rupprecht Geiger "Geist und Materie" exhibition runs until 8 February 2020; the Oscar Niemeyer Sphere will open in spring 2020.



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