

INFORMER

FELBERMAYR GROUP MAGAZINE 1/2016

TOUR DE FORCE

TRIMODAL TRANSPORT FOR POLISH POWER STATION

HOT AIR

POSITIONING A STEAM ACCUMULATOR ON ITS FOUNDATIONS

TUNNEL VISION

ZEDERHAUS ENCLOSURE TAKES SHAPE



PHOTO: FOTOKERSCHI.AT

CURIOUS

EXCAVATOR SHOVEL FOR FIRE-EXTINGUISHING



Dear readers,

Collaboration and partnership have shaped the development of the family-run company Felbermayr. This has helped us to build our success on the solid foundation of a family-run company. Long-term customer and economic relationships, along with a special responsibility towards our employees, were the prerequisite for this development. To continue fostering and preserving these values into the future, the generational change has been planned for a long time.

Even if the succession of the company has been secured and there is a suitable successor within the family, it is always difficult for a senior director to let go and pass on the baton. This is especially true for owners who have established their

company in the market and spent many decades moulding it into shape – there are many examples of this.

For many years now, we have been making every effort to ensure that there will be this type of controlled handover, for the benefit of all people, institutions and companies that are linked to Felbermayr.

Continuing to operate Felbermayr as a family-run company is a dream come true for us. This means that, as we step forward into the future, we can still guarantee our customers, suppliers and employees a partner who is dedicated and competent, who shows empathy and who is fully committed to everything they do.



With the departure of myself and my wife from Felbermayr Holding's executive board, we have now officially handed over the reigns and passed on management of the holding to our son Horst and his wife Andrea. We will still be involved in the family business, however, as we will continue to serve as Felbermayr's Chairman of the Supervisory Board and a Member of the Supervisory Board respectively.

Horst Felbermayr, Senior Director

We are delighted that you are a part of our past, our present and our future, and we thank you for placing your trust in us.

DI Horst Felbermayr

Andrea Felbermayr

Gisela Felbermayr

Horst Felbermayr

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RESPONSIVE New Felbermayr websites

Keeping with the slogan „mobile first“, we are presenting the new Felbermayr website and websites for several subsidiaries of Felbermayr Holding, which now offer all of the important information that users require. In addition to being optimised for use on mobile end devices, intuitive user navigation was the main priority when designing the websites. All available technology was therefore used to ensure that users can quickly find the content they are searching for. For example, an online form can now be used to send rental enquiries directly to the nearest Felbermayr site. Whether factual and informative or colourful and emotional – we have endeavoured to provide our target groups with the best possible support, and have also provided even more space for multimedia content.

Why not see for yourself by clicking here? You can visit our new websites by clicking on the following links:

- www.bautrans.cc
- www.felbermayr.cc
- www.hagn-umwelttechnik.de
- www.reinhold-meister.de
- www.wimmer-maschinentransporte.de



Let us know what you think by sending your feedback to marketing@felbermayr.cc. The first 100 people to provide us with feedback will be entered into a draw to win a 1:50 scale model of an LTM1500 and we will compensate you for your effort with a further 20 non-cash prizes (the judges' decision is final).

CHANGE OF LOCATION Moving to a new site in Sulzemoos

„The business must continue to run at 100 per cent; our customers and our work must not be negatively affected“ – this was the motto for the process of relocating the Felbermayr subsidiary Wimmer from Feldgeding to Sulzemoos (Germany). Around 250 truckloads were required to relocate this company, which specialises in assembling and transporting industrial systems. On 6th June, after several weeks of extra work caused by the move, over 120 employees were able to seamlessly restart operations at the new site. This was only possible thanks to the outstanding commitment of the employees. Then in July, an equally well-organised move took place for another Felbermayr subsidiary, as Hagn Umwelttechnik – a company that specialises in civil engineering – made the move from Olching to Sulzemoos. Employees from both companies could not wait to move into the new facility, which has more than 9,500 square metres of office, warehouse and workshop space. Their unanimous opinion? „We are all extremely happy!“



FULL OF HOLES

Sifting system for construction materials plant built

Felbermayr Transport and Lifting Technology has helped to repair and restore a sifting system with conveyor belt in the Lower Austrian town of Wopfing. Nine transporters were required to transport the system to the quarry belonging to construction materials manufacturer Baunit Wopfing – and they had to overcome gradients of up to 30 percent along the way. Semi low-loaders were used to transport the components, which measured up to eight metres long and approximately three metres wide, and weighed as much as 21 tons. A bulldozer was preloaded in order to move in a crane with a load capacity of 300 tons. This was required to overcome the gradient on the difficult gravelly ground. The building work took four months to complete and was finished in April.



SPECIALISED CIVIL ENGINEERING

Securing the foundation pit for a traditional hotel

From April to May, Felbermayr Specialised Civil Engineering was tasked with making a foundation pit secure in the town of Wagrain in the state of Salzburg. This involved building a total of 1,100 square metres of shotcrete wall, roughly two thirds of which was built as a temporary solution since the hotel extension will join up with the shotcrete wall directly once it is complete. The favourable geological conditions on site meant that around one third of the temporary securing wall could be built in a “ribbed” design. This construction project used 2,000 linear metres of injection drilling nails and 200 cubic metres of shotcrete in total.



WONDER BOYS**Winning streak for Team Felbermayr Simplon Wels**

Riding in the colours of Felbermayr Holding, the winning streak of the power pedallers from Wels remains unbroken from last year to this year. At the Austrian Federal Cycling League's opening race in March, which marks the start of the cycling season, the Felbermayr Simplon team took all three places on the podium – with Stephan Rabitsch coming first, Daniel Auer second and Daniel Schorn third.

Their success continued in April at the traditional "Cherry Blossom Race" in Wels, an important home race where sprinting ace Daniel Schorn romped to a win against around 120 competitors. Team Felbermayr Simplon Wels then returned from the Tour d'Azerbaidjan in May having won the overall title, the sprint jersey and three places on the podium.



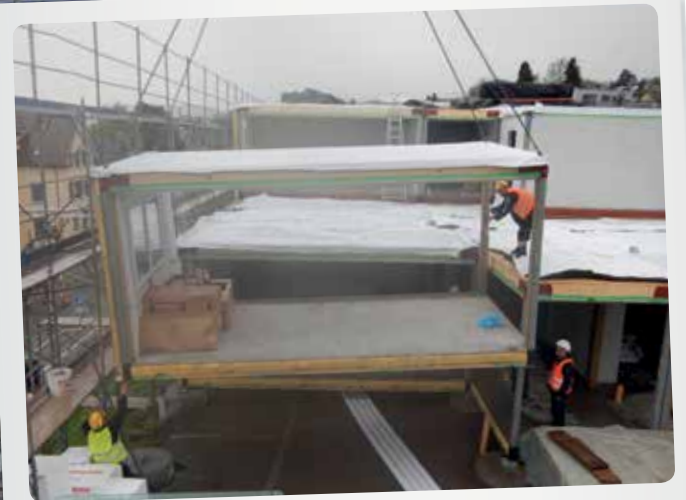
um. The overall winner of this internationally renowned race in category 2.1 was Markus Eibegger.

Continuing the Wels cycling team's long list of triumphs, Stephan Rabitsch came away as the overall winner of the Upper

Austrian Cycle Race, which attracts competitors from all over the world. Speedy Stephan Rabitsch also stormed to victory in his pale blue jersey at the Wels Inner-City Race in July, where he crossed the finish line first in front of Tour-de-France rider Georg Preidler.

MAKESHIFT HOME
Building modules for a retirement home in Rüschtikon (Switzerland)

Back in April, Bau-Trans AG (Liechtenstein) used five low-loaders to transport 100 room modules from Oberriet in the Rhine Valley to Rüschtikon in Switzerland in just six days. The transporters carried two room modules measuring 4.3 metres high and 3 metres wide per journey. A 100-ton crane was used to put the room modules into position. On average, up to 18 modules a day were delivered to the site and put together. The building – covering a total of almost 1,000 square metres – was ready for residents to move into in June 2016. This makeshift home is needed while renovation work is being carried out on the original retirement home.



EXTRA Solution for extreme use

At the beginning of this year, Felbermayr's Transport division acquired two PST/SL four-axle flatbed semi-trailers from vehicle manufacturer Goldhofer. The flatbed semi-trailers were purchased together with a 490 hp power pack unit and will be used both for internal transportation at various customers' premises and on construction sites out in the field. The decision to invest



in these was made because of the ability to combine them with Goldhofer's THP/ST heavy-duty flatbed semi-trailers. The fact that they have an extremely low vehicle height of 875 millimetres and a transport area measuring 3,000 millimetres wide were also key factors in the purchase. This universal vehicle type for transporting air vanes can even be combined with the blade lifter.



The hydrostatic travel drive of the PST/SL self-propelled heavy-goods module provides for infinitely variable driving without jerks or jolts even under the most difficult conditions.

SPRING CLEANING Overhauling a refinery in Romania

Carrying out maintenance and repair work at OMV's Romanian subsidiary, Petrom, involved the use of 50 cranes with maximum load capacities of up to 500 tons, around a dozen platforms and forklift trucks, and a couple of transportation sets. Around half of these cranes were

in use "around the clock" remarks Christian Krieger, Head of the Felbermayr subsidiary. The turnaround time lasted from the end of May until the middle of June. A total of over 3,000 workers came together in the town of Ploiesti to get the job done.



AWARD Best Practice Award for Felbermayr Construction

Around 2,000 visitors to this year's Construction Congress in April witnessed Felbermayr and the ARGE partners winning the "KOOP Award" for the "A23: Anchoring Retaining Walls in Laerberg" project in the "Best Practice: Infrastructure" category. Presented in the Vienna International Center, the award was given to acknowledge the spirit of cooperation between the client (Asfinag), the companies undertaking the building work, the planner and on-site building inspector while completing the project. The prize was awarded by the Austrian Society for Construction Technology (Österreichische Bautechnik Vereinigung, ÖBV).

PHOTOS: ARCHIV; MARKUS LACKNER (2)

"Horst Felix" heavy goods vessel on fire-extinguishing duty

In mid-March, a tanker caught fire on the Danube, close to Enns. However, the diligent actions of Felbermayr employees prevented this from becoming a much more serious incident. This was made possible by using an excavator shovel as a fire extinguisher.



The excavator shovel can hold eight cubic metres of water.

Go to video

to his team that the fire had been extinguished. All three members of the ship's crew were rescued and escaped injury.

Fire caused by technical defect

The stricken vessel was subsequently tethered to the Horst Felix on the port-side. With the vessel secured in this way, the emergency services were able to carry out an initial on-site inspection on the still-smoking ship. "Following initial investigations, the cause of the fire was assumed to be a technical defect," says Feirer.

Finally, Austria's Supreme Shipping Authority instructed that the ship, on which the fire had now been extinguished and which was now secure, be transferred around 15 kilometres to the tanker port upriver in Linz. In the opinion of the emergency services, without the spontaneous rescue efforts of the Felbermayr crew, it could not be ruled out that even greater damage – with environmental implications – would have occurred. However, Feirer and his colleagues from hydraulic engineering are looking upon it very pragmatically: "According to the Wasserstraßen-Verkehrsordnung (Waterways Traffic Regulations), it is our legal obligation to provide assistance." Be that as it may, the quick-wittedness and talent for improvisation demonstrated by the "dredger's team of firemen" in using the excavator shovel most definitely contributed to the effective extinguishing of the fire. ■

We were busy working on a passenger pontoon near Mauthausen," explains Ulrich Feirer, Technical Manager of Hydraulic Engineering at Felbermayr. As the captain noticed the blue lights of the fire brigade and police downriver, the thick plume of smoke from the tanker also came into view for the skipper of the Felbermayr ship, Horst Felix.

Fire-fighting with a dredger

While the fire brigade were still occupied with preparing to extinguish the fire, the captain reacted by steering the ship backwards to those in charge of the emergency response, and offered his help. The fire service commander boarded the Horst Felix within seconds and they approached the stricken vessel. "At this point, flames were already rising from the engine room," says Feirer as he describes those dramatic moments. The ship had 340,000 litres of fuel on board, so urgent action

was needed in order to prevent a much bigger environmental catastrophe. Dark smoke was rising as the Horst Felix approached the ship. The machinist on the excavator plunged the shovel deep into the Danube and, in one motion, scooped up eight cubic metres of water from the river, swivelled to the other side, and let the water shower down over the cabin in a deluge. This extinguished the fire to a great extent and prevented the flames from spreading to the fuel. For safety reasons, the excavator operator repeated this procedure several more times until the fire service commander reported



The burning ship had 340,000 litres of fuel on board.

No dithering in Zederhaus

Work on the Tauern motorway enclosure at Zederhaus is running full speed ahead and right on schedule. By 2017, the civil engineering specialists from Felbermayr will have completed their contribution towards the noise reduction measures for 1,200 residents. The enclosure of the 1,545-metre-long section was contracted by the Austrian motorways operator Asfinag.

In August 2013, we began building three bridge support structures and widening the motorway," said Felbermayr construction manager Thomas Schrodiss, speaking about the initial work for environmental relief and noise reduction in the Zederhaus district in Salzburg. This was necessary in order to create culverts for the Zederhaus stream and to ensure that there are always two lanes towards Villach and Salzburg available. The existing culvert structures were then broken off and construction of the tunnel tube for travel towards Villach began. In the end, a 1,545-metre-long section of the motorway will be enclosed. Around 900 metres of this will be moved up to 15 metres further away from the town of Zederhaus and will be up to two metres deeper.

Fire-retardant road surface

Work on the 1,545-metre-long enclosure began with construction of the sub-base layer for the tunnel tube in the direction of Villach. "A 50 cm frost wall was placed on top of this, followed by the concrete top layer with the concrete road surface," said Schrodiss, pointing out that asphalt is not generally used for road surfaces in tunnels due to the fire hazard. In the case of Zederhaus, this also applied to the 100 metres before and after the enclosure.

"Glasses-shaped" enclosure

In August 2015, the shell works for the first tunnel tube were completed on time. This was followed by the fi-

nal stage of the project with general electrotechnical equipment, such as lighting and ventilation. In December 2015, this work was also completed and the tunnel tube was approved for traffic – traffic was then diverted and construction of the second tube could commence. "So we are right on schedule," said Schrodiss. And this has been achieved despite the unexpected need for deep and surface foundations along around 50 percent of the road to improve the properties of the subsoils. The second tube could be approved in August 2016. After this, the next step is to produce the road surface and the fireproof coating for the internal walls. Sealing work will be done at the same time.

"We do this using so-called bentonite mats," Schrodiss explains. "These are laid directly on top of the concrete surface of the enclosure. This is topped with a plastic sealant laid in strips, which is then welded on." This work is to be completed by October. After that, the operating and safety equipment will be installed. "At the end of February, we will begin filling in the enclosure and adding vegetation. We'll do this using the material produced during the excavation of the second tunnel tube for the Tauern tunnel. In total, around 220,000 cubic metres of earth will be required. "That's roughly the same volume as 20,000 dumper trucks. If you were to line these vehicles up one after the other, they would cover a distance of around 220 kilometres. Finally, another 400 running metres of noise protection walls will be erected before and after the enclosure. Approval for the overall Zederhaus environmental relief measure is expected to be granted by summer 2017.

Surface or deep foundations were required along around 50 percent of the road to improve the properties of the subsoils.





Once the two tunnel tubes have been completed, they will be filled in. The material required for this will be taken from the excavation of the second Tauern tunnel tube.

Most substantial environmental relief measure

The Zederhaus enclosure is a sub-project that was agreed in 2004 by Asfinag and the federal and state governments. The aim of this joint project is to implement environmental relief measures along the A10 Tauern motorway between Hüttau in Salzburg and Lieserhofen in Kärnten. The project is the most substantial environmental relief measure along the Tauern motorway in Salzburg. For the district of Zederhaus, which has around 1,200 inhabitants, the project means a much higher quality of life thanks to reduced noise emissions and additional area due to the in-fill. ■



Around 120,000 cubic metres of in-situ concrete will be produced for the enclosure.

Industrial building constructed for car supplier

Felbermayr's Structural Engineering division began constructing an industrial building for manufacturing blanks for the automotive industry in July 2015. The building, which spans an area of around 8,000 square metres and is located in Linz, the state capital of Upper Austria, was completed in May 2016.

Voestalpine Europlatinen has stated that it is currently operating at full capacity utilisation, a situation which is set to continue into the middle of the next decade. This prompted the company – which specialises in laser-welded blanks for automotive construction – to build a second production site. Felbermayr was awarded the contract for the construction work,

as well as for plastering and screed-laying work and for building the outdoor facility.

8,000 square metres

"The building essentially consists of a production hall with an adjoining office complex, as well as workshops and storage rooms," stated construction manager

Mathias Imlinger from Felbermayr's Structural Engineering division. The hall is divided into a 16 metre-high room for stamping operations, totalling 2,500 square metres, and an area with a size of 4,700 square metres and a height of nine metres for the welding robots. 400 square metres of workshop area and a 640 square metre office unit were also part of the contract awarded to the Structural Engineering division.



voestalpine Europlatinen's new factory in Linz. More than 7,200 square metres of additional production space ensure a huge increase in efficiency.



330 tons of reinforcement were employed for the in-situ concrete used. This is equivalent to around 30 truckloads.



The employees requested low tolerances for the parts attached to the machine bases.

Four millimetre tolerance

The office complex was constructed entirely on-site from bricks. All other parts of the building were produced by means of prefabricated concrete parts or hollow-core planks and walls. "Special requirements were placed on the floor of the hall, which was constructed as a monolithic plate," explained construction manager Imlinger. To significantly increase the abrasion resistance of the floor surface, adhesion fines were interspersed in the still not-quite-set concrete and then smoothed. In order to prevent cracks forming, the floor was also divided into areas of around 150 square metres by heavy-load joint profiles. However, the highlight of the order was the tolerances required in the hall for stamping operations. "In order to achieve the required assembly quality for the subsequent installation of the stamping machinery, the necessary attachment parts were pre-welded onto the reinforcement," explained Imlinger. He also mentioned that approximately 250 of these units were created. The accuracy for this was given as plus zero and minus four millimetres. "We had to be extremely meticulous in order to comply with these tolerances," remembers Imlinger, who is pleased that even after concreting, the installed parts remained in the same position, give or take a few millimetres, that they were in before concreting. In addition to the pre-

fabricated concrete parts, approximately 1,400 cubic metres of concrete and 330 tons of reinforcement were also used. Felbermayr's Civil Engineering division used 2,000 tons of asphalt for the outdoor facility covering an area of more than 5,000 square metres.

World's fastest production system

According to a statement by voestalpine Europlatinen, commissioning the factory will not only extend the company's manufacturing capabilities but will also extend existing production in terms of the technology used. For instance, in the new factory it is possible to manufacture stamped aluminium parts and aluminium blanks for the first time. These parts are required for fitting doors, side walls and

tailgates, for example. With welding taking less than two seconds for extremely small parts, the factory also has the world's fastest system. Another positive effect is that putting the new factory into operation will increase the number of employees from 200 for 270, according to company management. ■



The office building adjoining the production halls was constructed entirely on-site.



ALL NINE:

At the end of July Bautrans, a subsidiary of Felbermayr, performed nine transports with boilers. Each boiler had a weight of 85 tons, a length of 30 metres, and a diameter of 4,3 metres. Due to the large dimensions and the 500 kilometres long route, the transport had to utilize a height-adjustable girder bridge system. With this special equipment loads can pass under bridges and guiderails and tight bends can be passed over. The vehicle combination reached a total length of around 64 metres. The final destination for these transports was Magdeburg (GER). The boilers will be used for hot water storage in a district heating plant.



Transportation for Polish gas-fired power plant

To cover the ever-increasing demand for electricity in Poland, a new gas and steam turbine power plant is being constructed by Siemens Energy for PKN Orlen north-west of Warsaw. Felbermayr Deutschland GmbH, Nuremberg, was commissioned with transporting the main components and with positioning the foundations of the transformers. The work started in February and will be completed in October.

The steam turbine, turbine rotor, generator and two housing sections were reloaded from the barge to a coastal trading vessel in Nordenham. An exhaust gas diffuser and a gas turbine were also loaded.



The Polish economy is growing much faster than the economies of most EU countries. This also affects industrial demand for electricity, which in turn has resulted in the need to construct new power stations. One of these is to be connected to the grid around 100 kilometres north-west of the Polish capital, Warsaw, by the end of 2017 – more precisely, in the city of Plock, which has around 122,000 inhabitants.

"We were awarded the contract in late summer 2015 and started the detailed planning phase immediately," said Boris Albl from the Felbermayr subsidiary in Nuremberg. There were only a few months before work was due to begin in February. "That's not a lot of time for a multimodal project, with unit weights of almost 500 tons," said Albl, who also mentioned the successful collaboration with the Best Logistics subsidiary in Stettin, Haeger & Schmidt as well as HSW Logistics in Duisburg, Felbermayr's Krefeld site and the Felbermayr ITB/Lanzendorf subsidiary, which were also involved in the project. Last but not least, however, the Managing Director of Felbermayr Transport and Lifting Technology, Peter Stöttinger, provided valuable support in the project planning phase.

5,000 kilometres through Europe

Starting at five points of origin, the components were transported across a total of around 5,000 kilometres to the power station construction site in Plock. "The steam turbine and the generator as well as the turbine rotor and two housing sections came from the Siemens plant in Mülheim an der Ruhr in North Rhine-Westphalia," explained Albl. Due to flooding, concept changes had to be implemented there right at the beginning of the project. The components, which had a total weight of around 900 tons, couldn't be reloaded onto a coastal trading vessel in Mülheim as planned, but had to be transported by barge to Nordenham at

the Weser delta into the North Sea. "Due to the flooding on the Ruhr, the coastal trading vessel would have been too high and wouldn't have been able to pass under some of the bridges," explained Albl. Once they had arrived, despite the unforeseen change in plan, the goods were reloaded onto the coastal trading vessel in less than a day. The gas turbine, which was already in temporary storage in Nordenham, and the exhaust gas diffuser which originated in the Siemens plant in Berlin, were also loaded. This was necessary to enable transportation of the components via the Kiel Canal, past the Bay of Mecklenburg and Pomeranian Bay to the next transshipment point around 1,500 kilometres away. "That would have been Gdynia," said Albl. But unfortunately, due to the time delay, the shipyard crane there would no longer have been available. The sea journey was therefore continued all the way to Gdansk, at the Weichsel delta. However, there wasn't a suitable reloading device there to trans-

fer the heavy, high-tech components. So, a 600 ton floating crane was ordered from Bremerhaven. That meant the components could still be reloaded onto the waiting pontoons on schedule.

The next 350 kilometres or so to the next transshipment point were covered on the Weichsel. "The Weichsel is not an impounded river and has a very low water level all year round," said Albl, explaining the core problem. That's why we used low-draught heavy goods pontoons, specially modified by Best Logistics. With a load weight of around 500 tons each, a maximum draught of just 1.4 metres was achieved, remarked Albl, pointing out that one year previously, a similar transportation had been attempted on the Weichsel which had been delayed for several months due to its draught of 1.8 metres. A delay of this kind absolutely had to be avoided, in order to meet the customer's requirements. Within a week, the two barges and two pontoons had arrived at the dock in Plock.



Challenging final journey

But, having negotiated the problems on the waterways, the difficulties were far from over. The unloading ramp itself posed the first problem due to permanent undercutting by the river, which meant it didn't meet the structural requirements. The problem was resolved by using four stakes, reaching ten metres deep into the ground, and two concrete bases, one each on the left and right of the ramp. A rail-mounted lifting gear was positioned on this. "This enabled us to safely lift the two 500 ton components, after they had been removed from the ship by means of a hydraulic skidway. The gas turbine and generator were then loaded onto a self-propelled transporter using the 1,000 ton lifting gear from the Krefeld subsidiary," said Albl, explaining the complex procedure to prepare for the final journey by road. To enable the cargo to pass through a structurally impaired bridge without danger, the 500 ton generator and gas turbine were transported on an 18-axle self-propelled transporter with "4-file configuration". The weight was therefore spread across a total of 144 wheels, which were less damaging to the road surface, and the structure could be negotiated safely. However, three subsequent roundabouts were a substantial obstacle for the 30-metre-long vehicle. Therefore, the SPMT was rebuilt on ten axles after the bridge. A few hundred metres in front of the parking place, the men with



The unloading ramp had to be reinforced with stakes and concrete bases.

the light-blue helmets once again faced a huge challenge. A low-lying pipe bridge stood in the way of the transporter, which was around seven metres tall, including its load. By once again using the rail-mounted lifting gear, it was possible to slide the load under the pipe bridge. The transport team faced more favourable conditions at another pipe bridge. "We were able to pass through here without extensive technical measures, after the SPMT had been hydraulically lowered to its lowest possible driving height of 1.2 metres," said Albl. The remaining components were transhipped using two 500 ton mobile cranes. A "2-file" version of the SPMT running on 10 axles was sufficient for the weights of up to 133 tons. Beginning in mid-May, the components in temporary storage will be relocated to the turbine house. For tem-

porary storage on the construction site alone, around 200 tons of loading material (elephant feet, supports, load distributors) from the Krefeld subsidiary was used.

Final transport by road and rail

A total of 280 tons of heavy capacitor parts covered a distance of around 300 kilometres by road. The point of departure for these components was the city of Opole, south-west of Plock. The components, weighing up to 50 tons and with widths of up to 7 m, were transported on semi low-loaders. Housing sections for the ND turbine, weighing a total of 200 tons, followed in mid-June, also starting from Opole.

A 277 ton transformer from Siemens, Weiz was then delivered by Felbermayr ITB via a 32-axle Schnabel car and positioned on the base by the Krefeld subsidiary. The project was completed in October after a further 1,000 kilometres journey by rail, with delivery of the two 110 ton phase modifiers from Siemens, Linz in Austria, and their positioning on their foundations, after which they were transported by rail to the Felbermayr heavy goods terminal in Linz and stored there for several weeks. A fantastic project has come to an end for Albl. "This kind of project can only succeed with good team work," said the 43-year old project and subsidiary manager from the Nuremberg site. And his opinion is backed up by the comments of the responsible construction site manager from Siemens following delivery of the heavy lifts: "What a week and a special day for Plock! All Heavy Goods arrived safely at the jobsite. Special thanks to the Siemens Transportation Team and to Felbermayr. Such impressive work." ■



The 500 ton world record-breaking gas turbine came from the Siemens plant in Berlin.

Playground for transformers

The 4000 square metre warehouse and assembly unit also has an oil collection tank.



Go to video

The heavy goods and bulk cargo terminal on the Rhine in Krefeld offers the perfect infrastructure for loading, unloading and storing cargo from barges and coastal trading vessels, as well as for warehousing and project management. Take, for example, the delivery and storage of transformers, carried out in mid-April.

Here in Krefeld, we are something of a logistics hub for all reputable transformer manufacturers. We currently have around a dozen transformers weighing between 130 and 365 tons in temporary storage here," said subsidiary manager Jürgen Schüring from the Krefeld site. But the site on the Rhine offers ideal conditions for more than just transshipment and storage. "Some customers use the possibilities in the hall for the final assembly of their industrial components too," said Schüring.

Transshipment from ship to quay

With a load capacity of 200 tons, the "Big Rocky" stationary crane is one of the biggest cranes of its kind. But when there are heavier loads to lift, it shares the load with an LR1750. That's what happened in April. With this particular job, a 240 ton transformer was transferred from ship to quay and placed in temporary storage. The

voltage converter's place of origin was Nijmegen in Holland. "At about the same time, another transformer weighing 179 tons was transferred from a barge onto the quay," said Schüring, adding that this transformer was then transported into the hall by means of THP drive units. Final set-up by the supplier was then carried out there. The hall doesn't only have indoor cranes, but also an oil collection tank, and therefore offers ideal conditions for handling transformers. But it is not only transformers that are welcome guests at the Felbermayr heavy goods terminal in Krefeld. "We welcome anything heavy," said Schüring, pointing out that they have five sprockets, such as are used in tunnelling machines. The sprockets have diameters of up to 9.5 metres and were recently delivered by road from the town of Lippstadt, Germany, around 150 kilometres to the east. "Our door is also open to new customers," said Schüring, looking forward to more prospective requests. ■



Strong together: LR 1750 and Big Rocky

Krefeld port information

- Heavy goods warehouse on the left bank of the Rhine, with 4,000 m² of storage and assembly space
- Indoor crane with a maximum load capacity of 400 tons
- Oil collection tank for transformers and other oil-filled systems
- 40,000 m² of free storage and handling space
- 500 tons of handling capacity on the quay
- Quay wall reinforced for the use of mobile and crawler cranes
- 124 metre-long quay
- Multimodal interface for transferring goods between transport carriers travelling by rail, road and water
- Manufacture of industrial packaging by partner companies
- Loading, unloading and stowing barges and coastal trading vessels

Positioning a steam accumulator on its foundations

In 2015, the global cellulose fibre manufacturer Lenzing commissioned Felbermayr with transporting a steam accumulator and positioning it on its foundations. At the beginning of May this year, the 72 ton and 17-metre-long steel container arrived safely at its destination in Lenzing, Upper Austria. At this point, the actual work for "the manual guys" at the Felbermayr installation department began.

Confined spaces and challenging problems are part and parcel of our daily work," reported Herbert Gruber from the installation department in Linz, who had been involved in the project during its preparation period of around one and a half years and had developed solution proposals together with his colleagues.

In this particular case, the problem was a bridge that was several decades old, and for which there were no longer any structural engineering calculations. The team had to find a means of safely passing over the 45-metre-long bridge. "We tested several options," said Gruber. Finally, however, the construction of a skidway was deemed the most efficient solution in terms of time, and

thus the most economical. But defined support points were required in order to divert the mass of the steam accumulator into the ground. A solution was found in collaboration with the structural engineers.

The steam accumulator, which had a diameter of 5 metres and a length of 17 metres, was produced by the family-run company Bertsch in the town of Bludenz. Multiple traffic guidance measures were required for the 400 kilometre journey to its destination in Lenzing. Thanks to the "home advantage" of the Vorarlberg company Baurtrans, which was responsible for transportation, delivery was carried out promptly. Following its arrival at the

Lenzing plant, the 72 ton steam accumulator was transferred onto an 8-axle self-propelled transporter by means of a telescopic crane. The compact dimensions of the self-propelled transporter came into their own during the 1,000 metre distance covered on the factory site. It was even able to cope with tight curves.

500 tons in action

For the precision work, the steel container was transferred onto the skidway. A telescopic crane with a load capacity of 500 tons was used to do this. 105 tons of ballast were added to the crane in order to handle the maximum radius of 17 metres with the 72 ton steam accumulator. Thanks to the crane operator's concentration, his signaller and the employees at the manoeuvring ropes, precise positioning of the container on the skidway next to the dangerously close pipe bridge was possible.

Maiden outing for hydraulic unit

Now for the "manual guys'" work, as the installation department employees call themselves. They were faced with a 51-metre-long skidway, which was constructed at a height of 85 centimetres. "That allowed us to reach the foundation after sliding it to the ideal height, in order to position it with the hydraulic jacks," explained Gruber, pointing to a new hydraulic unit. This device was developed together with Neuson hydrotec. Despite a low operating pressure of 100 bar instead of the usual 200 bar, it can achieve a much higher moving speed.



Herbert Gruber from the installation department in Linz is pleased – the hydraulic unit developed together with Neuson hydrotec covers one metre per minute. That's the Champions League of skidways, said the long-time Felbermayr employee, adding that this allows 450 tons to be moved easily with an operating pressure of just 150 bar.



For factory-internal trips, the self-propelled transporter is the ideal means of transport.



One big challenge was that heavy vehicles were not allowed to drive over the approximately 80-year-old bridge – not even for construction of the skidway.



An LTM1500 with 105 tons of ballast was used for transfer from the self-propelled transporter to the skidway.

"In our case, around one metre per minute" said Gruber. He went on, adding "This is made possible thanks to a stronger assembly and higher power output." But inventiveness in other things cannot be overlooked. For example, the basic element of the actual skidway is based on railway tracks which, when provided with a restraint device, enable forward motion by

means of hydraulic push cylinders. It's hard to buy anything "off the shelf" in our industry, Gruber explained, indicating the pronounced focus on safety and the close collaboration with certification companies for such in-house developments. It only took one day to complete the actual movement and positioning on the foundations using hydraulic jacks. But taking preparation

and follow-up into account, however, operational implementation of such jobs takes about a week of work. For Lenzing AG, it was required in order to optimise a peak shaving process in the production of cellulose. Final commissioning was carried out in accordance with a detailed functional testing and acceptance process at the end of July 2016. ■



The skidway was 51 metres long and could only be supported at predefined points on the bridge.



Four hydraulic jacks with a lifting power of 50 tons each were used for positioning on the foundations.

Heavy transport for the BBT

The Felbermayr subsidiary Baurtrans had completed more than 100 transportations for the Brenner base tunnel by the end of last year. The loads included tunnelling machine components weighing up to 120 tons.



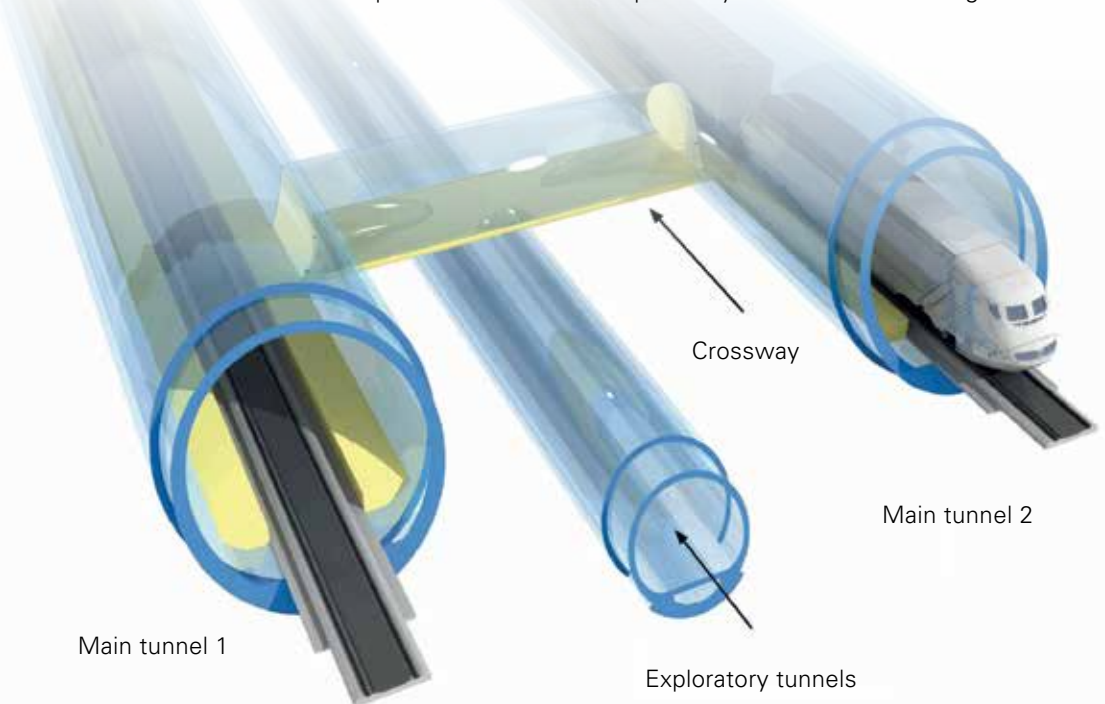
Transportation through the four-kilometre-long access tunnel to the actual construction site was carried out using conventional low-loaders. The self-propelled transporter was used for heavy components. Many cranes and platforms were used for the transshipment and assembly work, including a 400 ton lifting gear, which was used for parts of the assembly work for the tunnelling machine. The tunnelling machine has been in operation since October 2015. On 9th July, the first 2000 m were opened up. A further 13 km are required for completion of this stretch. In the end, this tunnel will be used provisionally as an exploratory tunnel and for transporting waste material away from the main tunnels. Following commissioning in 2025, it will primarily be used for drainage. ■

On 1st October 2015, preliminary work for the exploratory tunnels between the Ahrental and Wolf access tunnels began. The tunnelling machine used weighed more than 2,020 tons and drilled a tunnel section with a diameter of 7.90 m into the rock. Transportation of these milling cutters, with a cross-section of 49 square metres, was assigned to Baurtrans by the Tulfes Pfons consortium, comprising Strabag and Salini impregilo. "A total of 115 trucks were required for this," said department head Josef Ammann from Baurtrans Lauterach.

weight were permitted. Expensive and time-consuming conversion work was required to reduce the weight of the two components accordingly. All in all, however, the transportations were carried out in the required time.

Bridge downweighting hampers project

For the 500 kilometre distance from Schwanau in Germany to the destination near Innsbruck, many traffic guidance measures were required. Four months of preparations were required to meet the logistical challenges, including approvals. Expensive changes, which involved great effort, were required due to a bridge downweighting in Germany, explained Ammann. "During the preliminary examination, we were told that we would be able to cross all bridges, even with the 144 ton drive element and an equally heavy main beam. But during the approval phase, some bridges were downweighted, with the result that only 120 tons of transport



At a length of 64 kilometres, the Brenner base tunnel will be the world's longest underground railway connection, once commissioned. The special features of the BBT include the so-called crossway – a connection between the two main tunnels. Such crossways will be made every 333 metres, and will be used as escape routes. Another novelty is the exploratory tunnel. It is positioned centrally, twelve metres below the two main tunnels and has a diameter of around six metres. The Brenner base tunnel runs from Innsbruck (Austria) through the Brenner Pass to Franzensfeste in Italy. Official approval for public passenger and freight transport is expected in 2026.

Felbermayr supports upcoming snowboard talent

For many years, Felbermayr has supported regional and international sporting events, teams and athletes. Based on the motto "good things come in small packages," a snowboarder has also recently joined the ranks of Felbermayr-Holding sponsorship recipients. His name is Jacob Meringer and he intends to achieve great things with the piece of sports gear which he sees as the 'board of the world'.

Jacob Meringer was just six years old when he stood on a snowboard for the first time. He stood so confidently on it that he thought right from the beginning, "This is cool and looks like fun, I'm going to stick with this." But soon, cool and fun just wasn't enough for Jacob's talent and so the now 15-year-old switched from the freestyle board to the race board.

The Lipizzaner on the race board

When he was twelve, Meringer joined the "Lipizzaner Team" snowboarding club in Köflach. The club, which specialised in training upcoming snowboarding talent,

was the perfect place for Jacob. He came fourth at the Kärnten state championships during the first year of his membership. The next year, he was the state champion. According to Jacob, the mentality in the Lipizzaner team is something special – a feeling that the young sportsman and his teammates emphasise in their own way with the unofficial slogan "Lipizzaner style always rocks."

Jacob says his biggest success in the past season was winning the title of Austrian champion in the parallel giant slalom category. But he also competed in the Alpe Adria snowboard cup. In this race series there were 105 participants from five dif-



"I'm proud to represent Felbermayr."
Jacob Meringer



ferent countries on the start line – Jacob came third. A dozen or so other medals are further proof of the talent and ambition of this young sportsman from Graz. But to the delight of his parents and grandparents, Jacob doesn't just move successfully from gate to gate on snowy slopes – he's also out in the lead at school. He completed his fifth year at Sport-Borg Graz with "good results".

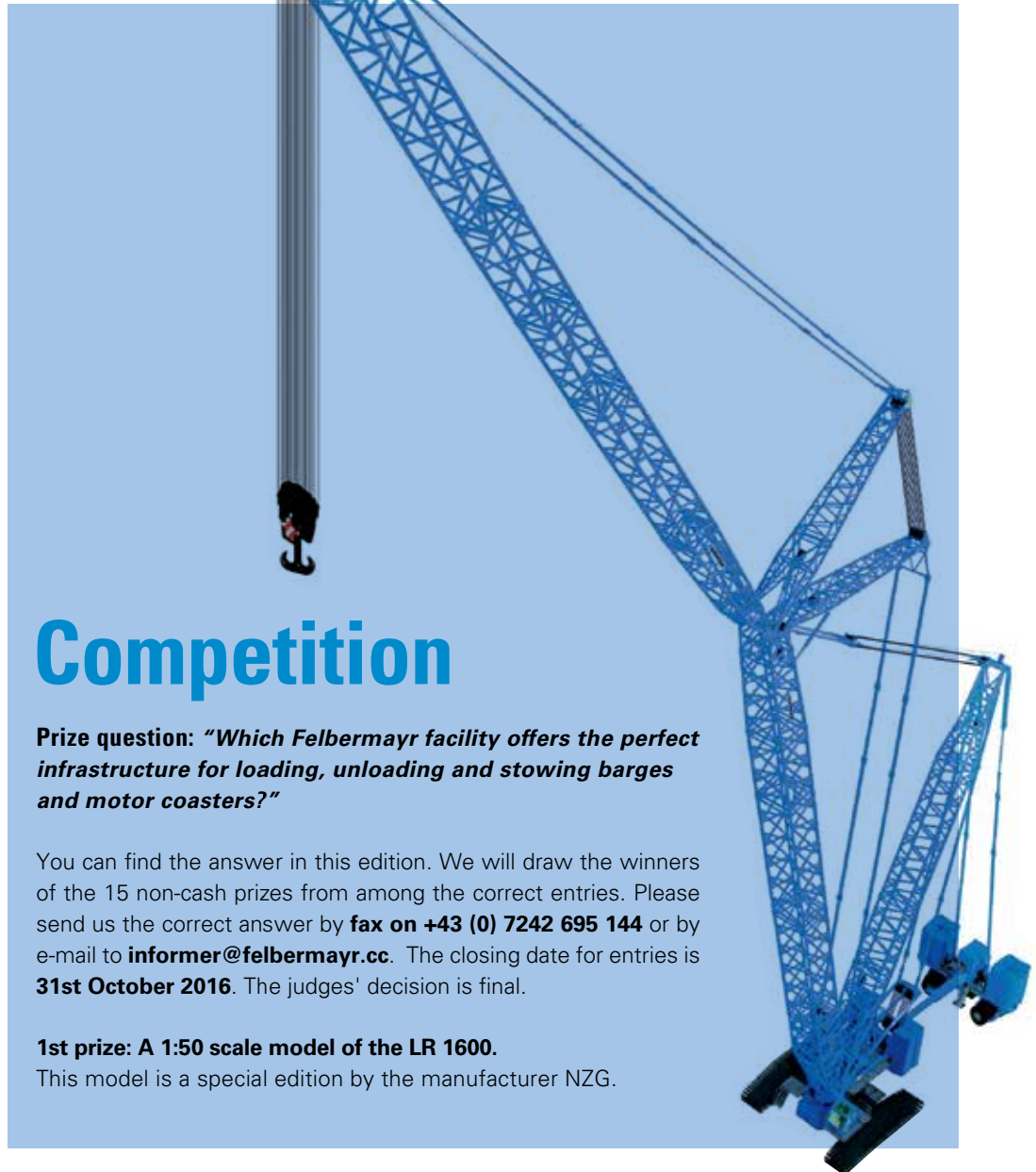
Meringer is preparing for the coming season with 21 hours of training per week. This primarily involves strength training as well as coordinative exercises and increasing his speed. But Meringer and some of his Lipizzaner teammates will also continue to improve their technique on the snow during the summer holidays at the world's largest indoor ski resort in Landgraaf, Holland.

PHOTOS: MERINGER



FELBERMAYR CONSTRUCTION New Technical Director

Stefan Hielle has been the Technical Director of Felbermayr Bau GmbH & Co KG since April 2016. Hielle has so far successfully acquired and implemented projects in the infrastructure, power station and industrial construction sectors, both inside and outside Austria. In so doing, he has acquired extensive skills in management and organisational development. Hielle took over the role from Hannes-Sebastian Huber, who left the company of his own volition.



Competition

Prize question: "Which Felbermayr facility offers the perfect infrastructure for loading, unloading and stowing barges and motor coasters?"

You can find the answer in this edition. We will draw the winners of the 15 non-cash prizes from among the correct entries. Please send us the correct answer by **fax on +43 (0) 7242 695 144** or by e-mail to **informer@felbermayr.cc**. The closing date for entries is **31st October 2016**. The judges' decision is final.

1st prize: A 1:50 scale model of the LR 1600.

This model is a special edition by the manufacturer NZG.

RETIREMENTS

Well-earned retirements

Many thanks and well-deserved appreciation are extended to all those who have recently retired. They have contributed to the growth of the firm, some for decades, and thus have helped shape the company's history.

Franz Fischer – Sareno, Ulrichsberg, **Karl Grünwald** – Landfill Construction, Hagn Environmental Engineering, **Günther Teuber** – Landfill Construction, Hagn Environmental Engineering, **Hans Binder** – Hydraulic Engineering, Hagn Environmental Engineering, **Dieter Peters** – Landfill Construction, Hagn

Environmental Engineering, **Engelbert Pinzl** – Braunau, **Roland Koll, Ing.** – Structural Engineering, Wels, **Franz Linortner** – MTA, Wels, **Ingeborg Ortner** – Wels Administration/Accounting, **Franz Jauernegger** – Waste Management, Wels, **Johann Huber** – Civil Engineering, Wels, **Georg Nenad** – Civil Engineering, Wels, **Mustafa Grbic** – Structural Engineering, Wels, **Ivo Voinjic** – Structural Engineering, Wels, **Frank Michelson** – Cranes, Bautzen/Bautzen subsidiary, **Henry Hoffmann** – Cranes, Kamenz/Bautzen subsidiary, **Johannes Hanke** – Cranes, Spre-

berg/Bautzen subsidiary, **Hans-Jürgen Bunde** – Cranes, Dresden/Bautzen subsidiary, **Dieter Klemke** – Cranes, Bautzen/Bautzen subsidiary, **Klaus Schütze** – Cranes, Spremberg/Bautzen subsidiary, **Sigrid Westphal** – Material requirements planning Dresden/NL Bautzen, **Pierre Pozol** – Thionville branch, Haeger & Schmidt, **Gabriele Schüler** – Project Logistics, Haeger & Schmidt, **Günther Friedrich** – Fitter, Wimmer Machinery Rigging, **Rudolf Rathmann** – Project Manager, Wimmer Machinery Rigging, **Sante Siligato** – Mechanic, Wimmer Machinery Rigging

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For reasons of linguistic simplification, all statements in this document are to be understood as gender-neutral.

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