

INFORMER

THE MAGAZINE OF THE FELBERMAYR GROUP 2/2009

SPORTS

FOOTBALL PITCH WITH ARTIFICIAL TURF

HEAD IN THE CLOUDS

RAILWAY CROSSING USING A SLIDE SYSTEM

LIFTING TECHNOLOGY

STEEL GIANTS IN A FIGHT AGAINST GRAVITY

PRACTICE

COMMON SENSE IN ACCIDENT PREVENTION



A model crane for all!

Dear readers,

What is a company boss to think when he arrives at the company gates first thing in the morning to see two young people waiting there? I thought they must be new trainees who didn't know where to go. But it turned out that they were not looking for a new training position, but were simply interested in and even filled with enthusiasm for our excavators, cranes and abnormal loads vehicles that set off for their destinations from the company's site in Wels early each morning. A few weeks later, the two of them gave me a gift of a model crane made from cardboard. I was delighted – for me, it's a present with symbolic meaning. The intellectual ingredients underlying it are enthusiasm and

creativity, concepts that I believe are essential for all commercial success.

Let us all be kindled by this enthusiasm, as we contemplate the challenges of the coming year, which are not going to get any easier. The traffic lights are on amber. Every individual among us is invited to make an active contribution to shaping the future, their efforts having a positive effect on the traffic lights' message.

The past year has left me feeling positive. Working with our customers, we have successfully completed a lot of complex projects. Together, we have taken a big step forward in a year overshadowed by crises, some of which are

presented on the following pages. But let us be aware that, as things stand today, 2010 will also bring a lot of difficult challenges. I therefore wish you all your own personal model crane – let us maintain our enthusiasm.

In this spirit I wish you a merry Christmas and every success for the New Year.

Yours sincerely,

Horst Felbermayr

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Powerfully into the future.

The optimist sees in every problem a challenge, the pessimist in every challenge a problem. However an individual person looks at it, it is the solution that counts, and one thing is clear: In the coming year, Felbermayr too will have many problems to solve and challenges to overcome.

But we have a sound starting point and are well positioned both in terms of business areas, divisions and departments as well as geographically. These are excellent preconditions for the coming year, created through the commitment and endeavour of all our employees. Thank you!

But my special appreciation goes out also to our customers and suppliers, since we

have to thank their trust, collaboration and fairness for the solid foundation which our success enjoys.

Our primary questions for the future will be: Where can we find new value creation opportunities? What can we simplify and, in so doing, organise more efficiently? Each one of our employees will be asked to continue to find answers to the questions that arise in their own area of responsibility. The attitude of "closing one's eyes and just pressing on" is not good enough, especially not in difficult times such as these. Courage is required. Only those who open their eyes and set their sail correctly to the wind will emerge from the crisis strengthened - and that is where we want to be, together

with all our customers, suppliers and employees. So let us look forward to future challenges, search for solutions and leave the problems behind us.

And now, I would like to take this opportunity to wish you and your family a merry Christmas, a good start to the New Year, with every success and, above all, good health.

Yours sincerely,

Horst Felbermayr DI

COVER PICTURE

Construction builds a passive house residential development

The Felbermayr Construction division is currently building a 75-units residential development in the centre of Wels. The Civil Engineering division began the earthworks for the passive house-quality development at the end of August. Now, three months later, the first storey has just been completed. The building will continue to grow at a rate of one storey every two weeks. The semi-prefabricated basement walls consist of two concrete shells infilled in situ with concrete. According to site manager Robert Grundner, the erection of the V piers on which the house stands was a difficult operation. The statics called for a five-fold reinforcement system; but the necessary formwork was also quite a challenge. In total, the innovative building was constructed from around seventy percent prefabricated components – as well as reducing the construction time this also ensured higher production quality. From the second storey upwards, the concrete (used for reasons of statics) is replaced by prefabricated brickwork made by Pichler. The final layer of the 5-storey shell should be completed in January of the coming year. Weather permitting, work can then begin on the installation of the thermal insulation.





On behalf of a successful team: Division manager Thomas Grabuschnigg and technical manager Maximilian Cisek.

ANNIVERSARY 15 years of ITB

"ITB has carved itself an outstanding niche in the market and enjoys a solid presence", says Thomas Grabuschnigg, manager of the international low-loader rail transport (ITB) division, a position he took over in Summer 2005 from his predecessor Herbert Reutterer, himself formerly the managing director of ITB. Since 1994 they have been operating rail transport together with a highly motivated team. Initially there was only one site in Vienna, but a move eastwards was soon made, with offices opened in Prague, Bratislava and Wrocław. "We are well established in our sector in central and eastern Europe. In the next 15 years we want to concentrate on strengthening our position in southeastern Europe", says Grabuschnigg. Essential to this success, in addition to continuous support from management, are the employees themselves, whom he cannot praise enough: "The team is excellent – from the back office to the technically-skilled fitters, I can rely on my staff at all times. Their identification with the company and the ITB product is exemplary". Add to this modern, efficient technology and all factors are firmly in place for continued success in the future.



HIGH, HIGHER, HIGHEST Crane installation at 3,050 metres above sea level

With an LTM1100 from Liebherr, the Felbermayr branch in Wörgl undertook the highest crane installation to date for the sky-blue fleet. The crane installation, the like of which is unlikely to be found in the whole of Europe, was undertaken at the Gaislachkogelbahn mountain station. It took two hours for the 544 HP lifting gear to travel the 15 km from Sölden to the installation site. Two days were needed to lift the four steel frames for the pad foundations into place. The cubic structures had a length, width and height each of four metres and weighed around six tonnes. Their installation was only possible following the building of a road from the mid-station to the mountain station. The construction of the mid-station also involved a crane installation some twenty years ago, recalls divisional manager Johann Lettenbichler of the Felbermayr branch in Wörgl, Tyrol. Back then the mountain station was constructed "manually", using hoisting equipment.

SHOPPING SPREE 400-TONNE CRANE ON KÄRNTNER STRASSE

LTM 1400 with 400-tonne maximum load took up residence from mid-September on Austria's most prominent shopping thoroughfare. With a view over St Stephen's Cathedral, the giant crane was hired as a high-performance assistant for the demolition of the former tax offices. With 120 tonnes ballast and a hundred-metre boom length, the crane towered over the rooftops of Vienna and provided ample power for the downhill conveyance of more than ten tonnes of heavy reinforced concrete elements, at a projection of seventy metres. But it was not only the technology that was met with enthusiasm – the restricted space meant that the crane had to be assembled thirty metres from where it was to be used and then moved to its working position with fully-extended – hundred-metre – telescopic boom and luffing jib. The 400-tonne crane completed its job in around four weeks and was replaced by a 100-tonner for a further four weeks.



PHOTOS: MARKUS LACKNER (2), JOSEF HETZENAUER



From L to R: Thomas Grabuschnigg (ITB/international low-loader rail transport divisional manager), Horst Felbermayr (Felbermayr managing director), Mario Potzinger (deputy manager of MB Montan Spezialtransporte of RCA), Gerhard Helmer (deputy manager of Cargo & Logistics, management of MB Montan Spezialtransporte of RCA), Wolfgang Schellerer (Felbermayr managing director)

TEAMWORK FELBERMAYR AND RAIL CARGO AUSTRIA TO WORK TOGETHER MORE CLOSELY

Felbermayr and Rail Cargo Austria have many parallels which complement each other perfectly, both in terms of their areas of activity and the countries in which the companies operate. In order to formalise the existing partnership and enable further expansion, a declaration of intent was recently signed by representatives of the two companies. The main aim of this declaration of intent, in addition to knowledge transfer between the two companies, is further improvement of the ecological and economic performance, and a joint formulation of future objectives.

TRANSPORT Felbermayr in Angola



At the end of August the transportation of 10 power station components in the south-west African state of Angola was completed, together with the laying of the foundations. Back in March a self-propelled vehicle including a 500 HP powerpack, together with the load, were shipped from Antwerp (Belgium) to Cabinda in northern Angola. The parts transported included generators, transformers and turbines weighing up to one hundred tonnes. The transportation of the components from the port to the power station, forty kilometres away, took around three weeks. The components are needed for the modernisation of an existing diesel power station.



HYDRAULIC ENGINEERING Sediment discharge cleared in the Traun river

In the 1970s, in order to protect the Danube power station from sediment discharge, a sediment trap was constructed just before where the Traun flows into the Danube. This consists of deepening the bed of the river along a stretch of 700 metres. By the end of the year around 100,000 cubic metres of ballast will be removed from this area, thus restoring the necessary additional depth. The stilted dredger pontoons "Barbara" and "Ludwig" are being used for the dredging operations. The sediment is being removed to the interim holding area by 250 cubic metre capacity hopper barges. The operation is being carried out on behalf of Austrian Hydro Power. Centred on the mouth of the Traun in Linz, the works are set to be completed by the end of 2010.



CELEBRATION 20 years of BauTrans in Hungary

The operations of the orange fleet of BauTrans have extended to Hungary since January 1989. Zoltán Papp, BauTrans branch manager in Hungary, celebrated the anniversary together with numerous customers, suppliers and employees. The company is run as a subsidiary of the Austrian parent company and also belongs to the Felbermayr group. It is active in the business areas of specialist and heavy goods transport services, crane and platform hire and assembly logistics.



UPWIND

A resounding success for the 9th wind energy symposium

The Felbermayr lifting platform with a working height of 103 metres was a technology star. In addition to the main players on the home wind power scene, the numerous participants also gained some new perspectives of a different kind with a view from the world's highest lifting platform over the venue and the Lower Austrian regional capital of St. Pölten. They all came away with a professional impression of this piece of equipment, ideal for wind power operators to maintain and set up their systems. Ideal conditions also prevail for the wind power operators themselves – 618 Austrian wind turbines currently produce power for 570,000 households, providing 2,500 jobs. In order to continue on the road to success, the wind power operators are now hoping for a unified feed-in tariff across Europe for wind turbines.



From L to R: Valentin Radev, Kalina Radeva, Peter Stöttinger, Vesela Radeva, Horst Felbermayr, Sena Radeva

EXPANSION

A new site opened in Bulgaria

At the end of June the new Felbermayr branch in the city of Haskovo (population 100,000) was officially opened. Those present included Horst Felbermayr, joined by Bulgarian divisional manager Peter Stöttinger and Christian Krieger, manager of the Varna branch on the Black Sea. The site is run by Valentin Radev who, together with his team, offers heavy goods transportation together with crane and platform hire.

BLACK SEA SUCCESS

Dockside crane in use at the Black Sea port of Constanta



Felbermayr have been deploying a dockside crane in Constanta since the start of the year. With a load-bearing capacity of more than 200 tonnes, the heavy-duty crane is ideal for the handling of heavy loads. Together with the depth of the Black Sea port, up to 18 metres, this provides optimum conditions – even for the largest ships. In addition to handling industrial containers, the lifting device was also often used for handling transformers. The voltage transformers are transported by rail from Craiova which lies approximately 450 kilometres to the north of Constanta. The transformers which weigh around 190 tons were unloaded together with the use of a mobile crane which has a maximum load-bearing capacity of 250 tons - an LTM 1250-5.1. This second crane was necessary because of the large distance between the rail and the stationary crane, and the length of the associated overhang. The transformers were intermediately stored on the quay until the seagoing ships arrived. The dockside crane accomplished the loading of the transformers onto the ship single-handedly. The transformers were bound for Greece.



IN GOOD HANDS

INVESTMENT IN WIND TOWER ADAPTER

Felbermayr has recently introduced transport systems specially developed for wind towers. The new acquisitions include three- and four-axle Telesteps. A telescopic function enables them to be adapted to the length of the rotor blades. The "Mega Windmill Transporter", which also forms part of the new investment, is also telescopic. These wind tower adapters with integral lifting function provide for fast, flexible loading and minimum-risk transport of the sections. The new acquisitions have already proved their worth during transport assignments in Denmark, Poland, Czech Republic and Germany.

Routine increases accidents

Routine activities, often automated, can substantially increase the risk of accident. This is because routine creates habit, which in turn makes people careless. In this article, Felbermayr safety specialist Karl Frühwirth tells us more about this underestimated risk and how we can best protect ourselves against it.



It should become standard practice for everyone to pause before beginning a new task and think about what could happen – “forewarned is forearmed” is an essential aspect of accident prevention, according to Frühwirth.

We’ve always done it like that and there’s no reason to change!” or “I’ve been doing it like that for twenty years and nothing’s ever happened!” – I hear this kind of thing all too often in my job. Unfortunately this kind of attitude could almost be used as evidence in itself for accidents at work, as it is the habitual, supposedly safe situations that conceal the highest risk of accident. For this reason, safety regulations must be implemented conscientiously, even if they seem like a cumbersome interruption to the routine. It is not only my job, but a task for everyone, to prevent accidents at work. Injuries on building sites are often serious. If you consider not only the personal suffering, both of the injured person and their families, but also the loss or reduction in the workforce from the company’s point of view, the consequences are often catastrophic. Only together can we break this dangerous work routine; it is something that must be done. The best way of doing this is to ensure that colleagues draw each other’s attention to risks, raising awareness, correctly assessing risks and taking near-miss accidents seriously.

Near misses

Near misses are those incidents which do not actually result in injury or damage, or where the injury or damage is minor. We can benefit from keeping a record of near misses; it need not mean a lot of time or expense. These incidents may be recorded by hand on a simple sheet, but verbal notification to the designated safety officer may also be considered. Accidents at work may also be prevented by the circumspection of fellow employees, for example by the pro-



For more than ten years Karl Frühwirth has worked as a freelance safety specialist for all business sectors in a wide range of companies – including Felbermayr since 2004. Contact: karl@fruehwirth-arbeitsicherheit.at

per disposal of damaged equipment such as a faulty ladder and replacement with a new one. Another essential aspect in the fight against routine-related accidents at work is, in addition to the relevant specialist knowledge, the application of “common sense” – let us not forget the importance of this. ■

RISKS ARISING FROM THE ROUTINE

Falling

Almost a third of all accidents at work in Austria are caused by falling. This makes falling the main cause of accidents among Austria’s workforce. But most accidents do not happen, as is often thought, when working at heights or on staircases, but on level ground, making this subject equally relevant to office workers. (Source: accident statistics from the Austrian Social Insurance for Occupational Risk (AUVA))

Examples include:

- Jumping down from vehicles (lorries, construction equipment, etc.)
- Failing to note the risk of slipping on certain floor surfaces
- Inappropriate footwear, etc.

Starting up machinery:

- Not using safety devices in order to speed up working procedures
- Starting up without a visual inspection, as the machine is used every day and has always worked properly before

Forgetting to use personal protective equipment (PPE):

- The boss provides every employee with PPE.
- Professionals protect themselves!
- Everyone should be professional enough to use this equipment

Felbermayr involved in sports centre construction

In June, employees of the Salzburg construction branch started work on a new sports centre in Grossarl, Austria. The task includes the full scope of works – from the earthworks and roadworks through to the drainage and provision of the actual sports facilities, including the provision of a football pitch with artificial turf.

The call for tenders for the construction of the leisure facilities in Grossarl reads like a description of seventh heaven not only for keen sportsmen and -women but also for anyone wanting to enjoy

their leisure time to the full – as well as a street soccer court and two tennis courts the area will also include a decorative pond and beach volleyball court plus a multipurpose court. The street soccer court can also be

transformed into a skating rink in winter. But the highlight of the facilities has to be the football pitch with artificial turf. Felbermayr construction manager Roland Ortner says: "Grossarl is at an altitude of around a thousand metres above sea level, which means difficult conditions for a natural turf surface, which is why the decision in favour of artificial turf seemed the obvious one."

A high-tech product that is more than a match for natural turf

In order to bring the base ground for the artificial turf to the right level, first of all a layer of around fifty centimetres of humus and intermediate soil was removed and then around 1,300 linear metres of drainage pipes were laid. "Known as partial seepage pipes, these pipes have holes at the top to catch the precipitation and are linked to the local drainage system by a closed circular pipeline," explains Ortner. Once the frost blanket layer (editor's note: gravel through which the water can run off) was in place, a kerbstone border was installed around the edge of the pitch. The next stage was the placing of a base layer followed by a fine layer of sand. "Special equipment with a laser attachment was used, enabling differentiations in levels to be achieved of just a few millimetres over a length of a hundred metres," says Ortner of the almost incredible precision. In order to achieve the best possible shock absorption properties a further one-centimetre thick elastic mat was laid, on which the artificial turf was finally rolled out in four-metre wide strips. Once the turf was fixed in place the lines were cut in and also fixed. The lines do not need to be renewed, thereby saving running costs. In order to ensure the necessary stability of the artificial turf, dried quartz sand was then sprinkled over the whole area. "14 kilos per square metre, which is projected to give a total weight of more than a hundred tonnes over the whole pitch." The work was completed by the scattering of rubber granules, giving the

Once the artificial turf strips have been laid the joints are glued in place using a special fleece and artificial turf glue. In order to prevent weak spots, the joints are pressed down after positioning with a roller.



Precision work: the artificial turf, made up of four metre wide strips, is moved out over the pitch by a special vehicle and laid manually.



pitch surface the optimum technical properties for sports. All in all, this low-maintenance, durable high-tech product is more than a match for any natural turf pitch.

And the work goes on

Felbermayr is also involved in laying the surface of the tennis courts, as Ortner says:

“We are currently completing all the base course works, which we will then leave to settle in over the winter ready to complete the tennis courts in early spring next year. There are also general asphaltting works to be done, as well as the completion of an 18-hole mini-golf course and long jump facility.”

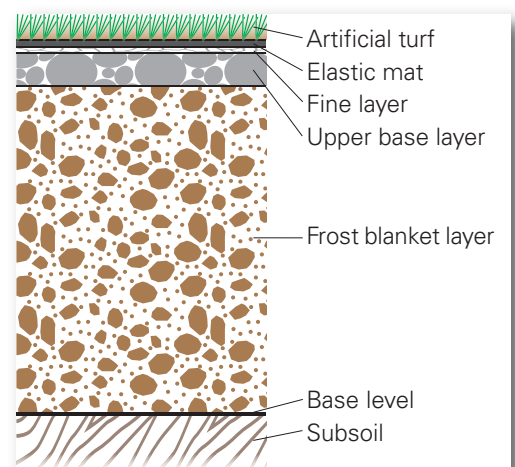


Artificial turf pitches are becoming ever more popular due to their low maintenance costs, permanently level playing surface and long life regardless of the weather conditions.

ARTIFICIAL TURF LAYERS

The aim of an artificial pitch is to imitate its natural counterpart as closely as possible and even to exceed it in certain properties, for example intensity of maintenance and care. For example the lines do not have to be renewed on an artificial pitch and there is no need for reseeding, mowing or fertilising. Artificial pitches also offer excellent play properties – they can be used seven days a week, round the clock, without the need for rest periods; furthermore they are ideal for improving technique, as

the conditions underfoot are always constant. In addition, they can be used whatever the weather or climatic conditions, and do not need sunlight like the more demanding natural surface does. As well as the artificial turf itself, infilled with rubber granules and sand, the substructure also has a substantial effect on the service life and technical properties of the pitch. The design of the various base layers is important as is the drainage system to ensure the unobstructed removal of precipitation.



Classic composition of an artificial pitch.

Rockfall protection for station installed

Since the beginning of September employees of the Felbermayr specialised civil engineering division have been engaged in the installation of a rockfall protection system at Landl rail station near Hieflau, Austria. Cable panels, a roll barrier as well as anchored shotcrete plates are being installed along a length of 500 metres.



PHOTOS: MATTHIAS HACKNER

The station, located in the national park district of Landl, lies below a steep, unstable slope and requires comprehensive safety and stabilisation measures. To this end, the Felbermayr special civil engineering division was appointed to install cable panels and a roll barrier. "For the cable panels, the choice was made of a modular rockfall protection system manufactured by Trumer," says construction manager Michael Messner. The system is the most suitable for steep sites because of its suitability for installation from the air.

Human effort cannot be beaten on steep gradients

But before this could be done, anchors needed to be installed for fixing the base plates for the supports. The base ground, consisting of earth and compacted rubble, meant that a decision was made to use injection drill anchors. The anchors, extending up to eight metres into the ground, were placed using an all-terrain walking excavator. For areas with gradients in excess of sixty degrees, a manually-operated light boom drill was used. "With this kind of steep gradient, human effort still cannot be beaten," says Messner of the outstanding work by his employees. The excavation works around the anchors to provide the support foundations was also carried out manually, although a helicopter was used to bring in the concrete for the foundations. Finally a further support base plate was built into the foundations.

Support installation by helicopter

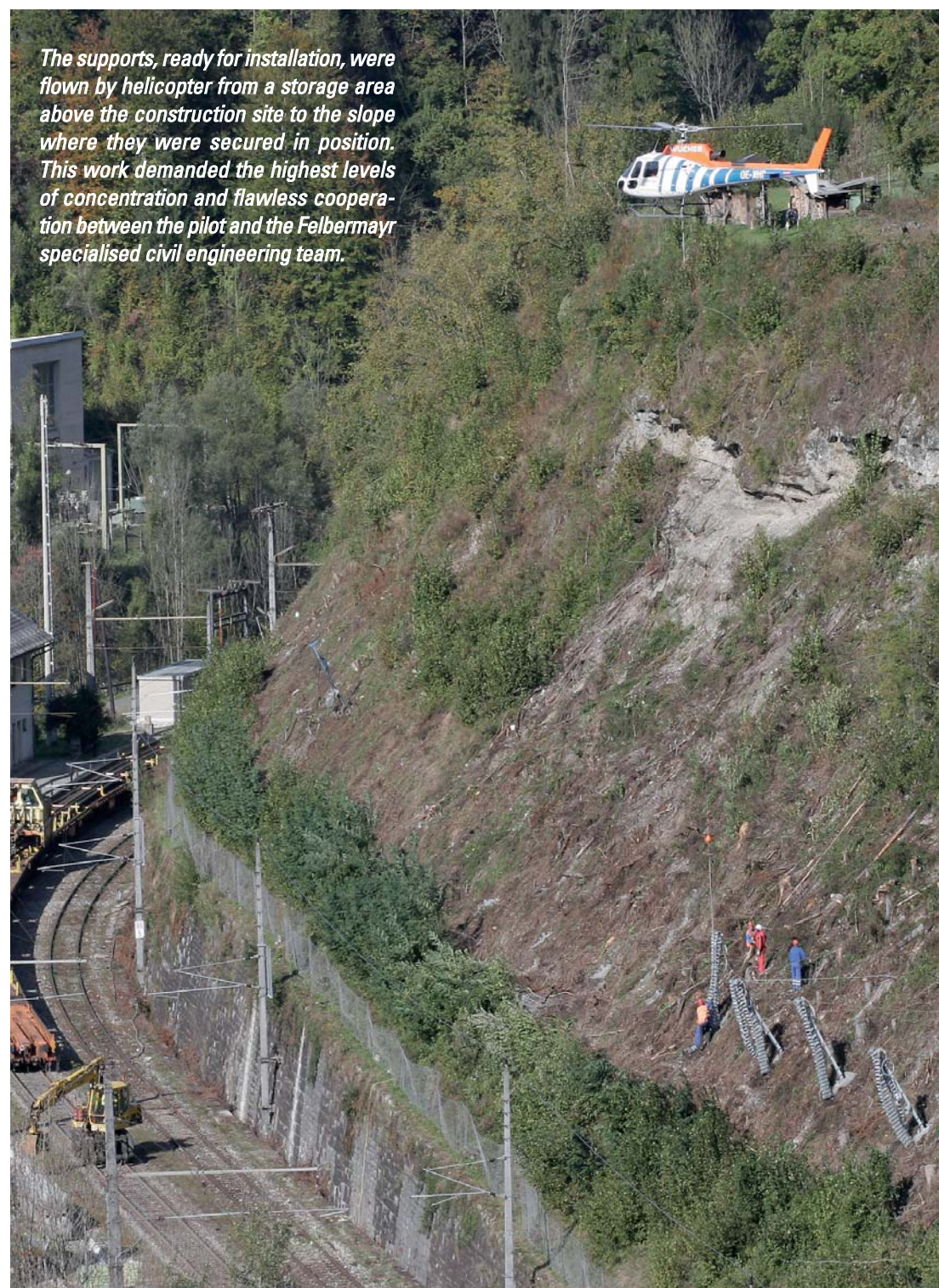
A helicopter was again used to fly in the supports. The supports were flown from a storage area around 300 metres above the station and received by four Felbermayr employees and a marshaller. "It took around three minutes to install a support," says Messner and explains the procedure: "While two employees were busy bolting the bottom end of the support to the base plate, the other two caught hold of the installation chains and fastened them to the left and right of the support at the pre-installed anchor points. Finally someone else climbed onto the support and detached the helicopter's transport cable." This requires a well-coordinated installation team, as the noise of the helicopter and stormlike wind does not make things easy. There are also considerable demands on the helicopter pilot, as in places he had to find a way between high-voltage power lines and the slope in order to bring the load to the sup-

port foundations. However the system proved successful – in less than two hours the supports for around 300 metres of cable panelling were in place. Finally, cables were drawn through the nets preinstalled on the supports. These act more or less like a curtain rail across which the cable netting is stretched.

Wire mesh prevents large-scale movement of materials

As a further safety measure, 2.5 meter steel tubes were rammed into the soil

along a length of 200 metres. With a diameter of thirty centimetres they formed the foundation for a two-metre high roll barrier of rigid wire mesh in less exposed areas. Finally a system of concrete pilaster strips reinforced by shotcrete and matting, with a thickness of sixty to seventy centimetres was installed above the rockfall protection system. "These acts as supports for localised aggregate banks at risk of slipping," says Messner. The comprehensive protection measures were completed at the end of November. ■



The supports, ready for installation, were flown by helicopter from a storage area above the construction site to the slope where they were secured in position. This work demanded the highest levels of concentration and flawless cooperation between the pilot and the Felbermayr specialised civil engineering team.





14 October 2009:
The 345 tonne generator was unloaded from the Lastdrager by means of a mobile "ro-ro ramp". After a two-day journey from the Felbermayr heavy goods port in Linz to Bratislava it once again has solid ground beneath the wheels of its transport vehicle. On 31 October it reached its destination in the Slovakian region of Trnava – the gas and steam turbine power station run by power supply company E.ON. (see report on pages 14 and 15).

Rail crossing with a new slide system

Using a combination of rail, road and water, in October Felbermayr transported three power station components with a total weight of 855 tonnes from Germany to Trnava in Slovakia. The highlight of the complex logistics chain was the crossing of a 52 and a 78 metre long bridge. Without special measures the bridge would have been unable to bear the weight of the several-hundred tonne loads.

The initial preparatory works began in June 2006 for this transport assignment that was unique in many ways. At that time the team could not foresee all the problems it might encounter. "At first we concentrated on the route mapping and it was only later that initial static calculations were requested, in order to confirm at an early stage whether the heavy components could be transported without being dismantled," says Boris Albl of the Felbermayr branch in Nuremberg. "Together with another gas turbine for the Siemens power station in Gönyü (Hungary), the gas turbine was loaded onto ro-ro heavy goods lighter "Lastdrager 30" at the Siemens works in Berlin and set off towards the heavy goods terminal in Linz, Austria," says Albl. In June the generator was brought by river barge to Linz where it was placed in interim storage. The steam turbines were picked up by conventional river barge from the Siemens

works in Mülheim an der Ruhr at the beginning of October.

Low water level delays transportation

A dry autumn with little precipitation caused the level of the Danube to sink to a mere 1.25 metres navigable depth in places between Straubing and Vilshofen. "We needed 1.65 metres," says Albl, explaining the temporary stoppage of the ro-ro push barge train and the motor ship "Gitana". As the weather forecast did not promise any improvement, fast action had to be taken so as not to place the departure deadline for the three-vessel convoy, agreed months in advance with the authorities in Bratislava. It was a case of beating the retreat for the barge train, which had already been becalmed for days in Regensburg. The load was taken back from Regensburg to Nurem-

berg, where the components were lightened in line with the available navigable depth. "In Nuremberg the transfer was effected using two crawler cranes from the Felbermayr lifting division," says Albl, explaining the essential additional expenditure. After three days the gas and steam turbines reached the Felbermayr heavy goods port in Linz. Here the "Lastdrager 30" together with push boat "Alfred Uhr," was loaded with the generator from its interim storage and the 20-axle self-propelled vehicle which would be needed for the subsequent roll-off procedure in Bratislava, and coupled to the "Gitana" to form a 25-metre wide barge train on the upper Danube. These joint forces then continued to Bratislava, where the components were unloaded by self-propelled vehicle using the ro-ro method and transferred using lifting gear onto three 20-axle hydraulic platform trucks for onward transport by road.

Slide system with lifting portal and crossing ramps for crossing bridges

The remaining seventy kilometres from Bratislava to the power station in Malzenice was a real relay. Special measures were needed for crossing 17 bridges, otherwise they would not have withstood the maximum weight of about 500 tonnes per vehicle. A sliding system for crossing bridges was developed and used for these manoeuvres. Special support systems deflected the loads to the bridge pillars and bridge head and the load was thus transported across the bridge, load-free, separately from the vehicle. For seven bridges with spans of up to 15 metres, two mobile crossing ramps were used, which could be set up and dismantled within just two hours. A further eight bridge structures were given additional support. The transportation moved ahead in leaps and bounds: "As soon





The bridge at Trnava was not sufficiently dimensioned for the weight of the 307 tonne gas turbine. The solution lay in a lifting portal on an auxiliary bridge enabling the gas turbine to cross the bridge by means of a slide system.

as we had crossed a bridge the systems were dismantled, moved on to the next bridge and reassembled." The job was more difficult when they came to the 52 and 78 metre long bridges. It took 15 lorry loads to transport the necessary equipment. Despite a modular construction, or "building block system," the installation was time-consuming according to Albl: "We are pleased to have completed it within two to three days, as ultimately around 350 tonnes of steel are set up. For the actual sliding manoeuvre over the bridges, the components were first unloaded from the low-loader by a specially-constructed lifting portal, then the lifting portal with the load suspended from it was slid over the bridge, and at the other end it was reloaded onto the low loader. "A whole day per component was needed to complete this manoeuvre," says Albl.

Combined forces for a successful finish

After 14 days' onward transport from Bratislava, the gas and steam turbines together with the generator were successfully transferred to the turbine house at the power station – two days earlier than contractually agreed. "During the operation we called in more or less all our capacities," says Albl and continues: "From the large-scale and stationary cranes for the transfers in Nuremberg and Linz, to storage facilities at the Felbermayr heavy goods port, roll on and roll off



Because of the low water level in the Danube, the components had to be lightened in the port of Nuremberg in order to achieve a suitable immersion depth.

shipments using a self-propelled vehicle in Bratislava, the use of lifting gear for the transfer to the relevant transport configuration and bridge crossings using a special slide system with lifting portal and crossing ramps, the whole range of Felbermayr capabilities has been put to good use." Not forgetting the additional transportation of around a hundred ODC loads from a wide number of different departure points throughout Europe, and the transport of smaller plant parts divided over several hundred lorries. As well as combining road and water transport, the operation will also include rail, for the transportation of a 323 tonne transformer in January 2010. The transformer will be transported by the Felbermayr division for international low-loader rail transport, ITB, from the Siemens works in Weiz, Austria, to the vicinity of the Slovakian power

station using a 32-axle beak-shaped flat wagon, where it will be transferred to two 15-axle beak-shaped trailer bridges for road transport to the power station, where it will be moved sideways onto the transformer foundation by colleagues from the assembly division in Linz; this will officially complete the contribution by Felbermayr to this project. Even now the whole team involved in the implementation from the branches in Nuremberg, Wels, Hilden, Linz, Bratislava and Lanzendorf can be pleased, as the operation is also being praised by the client. For example, construction site manager Fred Anklam of Siemens Energy is eager to offer his thanks for the "excellent cooperation and professional implementation of the transport operation": "No other project I have been involved in has ever been completed as quickly as this one," he says. ■

The crossing of the transport equipment, weighing up to 173 tonnes, took an hour. The special bridge crossing system deflected the weight via the bridge head to the ground.



Load-bearing system for bridge crossing

Instructed by LS Cargo Logistics GmbH of Ratingen, Felbermayr transported 16 mill sections from Magdeburg to Hamburg. The Felbermayr heavy equipment section was called on to deal with the crossing of a railway – the heavy components, some weighing more than a hundred tonnes, required the erection of a special bridge crossing system. The trailblazing project was developed by the Verden sales office.

At the beginning of April we began the preparations for the project, which were to last five months,” says Karin Cordes of the Felbermayr offices in Verden near Bremen. The wide-ranging measures demanded maximum flexibility; according to Cordes, some refinements were made to the practical implementation plans before the actual start of transportation.

Obstacles along the road

A total of 16 mill sections with diameters and heights of up to 8.7 and 4.6 metres were transported around three hundred kilometres from Magdeburg to the North Sea port at Hamburg. “We were able to transport the eight smaller sections weighing up to 23.2 tonnes from Magdeburg direct, by road. The rest, because of their dimensions, had to be taken to the Elbe

port in Schönbeck, 16 kilometres away. And this stretch caused a few problems – despite the fact it was only 16 kilometres. “Our colleagues in the heavy equipment section in Hilden pulled out all the stops and made the inconceivable possible,” says Cordes delightedly. As the bridge over the railway was not strong enough for the total weight of the loads, up to 173 tonnes, alternatives had to be found. “Quite simply, we’ll build a bridge over the bridge”, was the confident response of the colleagues led by Erich Bollenbeck of the Hilden branch.

173 tonnes “fly” over the bridge

The construction of the bridge crossing system near Magdeburg was begun in mid-August. Three days later, everything was ready and the first crossing could begin. The tractor unit with tow rope pul-

ling 150 tonnes rolled out very slowly onto the thirty centimetre high ramp at the bridge head and was soon hovering, self-supporting, above the bridge. This meant that the whole weight was deflected through the bridge head to the ground. After around half an hour the load was halfway across. Finally, after a further thirty minutes, the last of the 16 axles had left the exit ramp and once again had solid asphalt beneath its wheels – success! Three further mill sections followed, then the journey continued to the port at Schönebeck, where the load was transferred directly onto a ship.

Two days later the sections remaining in Magdeburg were brought over the bridge and loaded onto the river barge. They were then transported via the Elbe to the port at Hamburg. On arrival there the sections were transferred on board ship for their journey to North Brazil where they are needed for an ore milling plant.

Cordes is delighted with how it went, despite the efforts needed: “We should also thank our customer, LS Cargo Logistics GmbH of Ratingen. Without such competent cooperation it would not have been possible to complete such a project so smoothly.”



Before practical implementation, the design of the temporary bridge was tested at the company premises in Hilden.

Taking 630 tonnes to the North Sea

In August BauTrans transported several plant components from various production sites in Germany and Austria to Antwerp in Belgium, where they were transferred for shipping to Venezuela. The client of the project was the international industrial plant manufacturer Bertsch, based in Bludenz, Austria.



One of the convoy, consisting overall of 16 lorries carrying a total load of 630 tonnes, makes its way along the Rhine Valley motorway – routes and times with a high volume of traffic were avoided.

A total of 16 plant components weighing up to 175 tonnes had to be transported”, says Harald Achenrainer of the BauTrans office in Lauterach. The departure point for most of the containers was Nüziders in the Vorarlberg region. Other production and collection points included Rain am Lech near Augsburg and Voerde in North Rhine Westphalia. “The load from Voerde was dealt with by our colleagues at the Felbermayr branch in Hilden because of the geographical proximity”, says Achenrainer. From Nüziders in Vorarlberg a convoy of five vehicles made its way to Antwerp, more than 800 kilometres away; such a long journey was unlikely to be uneventful, as Achenrainer, who arranged the transportation, knows well. “Everything was planned perfectly, but even so our vehicles came to a standstill for a night before a recently-constructed

building site, as the restricted width meant they could go no further – the driver called me and asked what he should do. As we were unable to contact the client in the middle of the night, and clearing the construction site would have been very expensive, we decided to wait, not least as the construction site was only there for a short time and so we were able to keep to our schedule.” But this all came as no great surprise to Achenrainer – especially in summer such surprises are likely to be encountered on such a long route. “But it’s our job to see that everything runs ultra-smoothly”, says Achenrainer.

Heavy goods port serves as production site

Another component of the plant bypassed the road transport problems as it

was completed in a production shed at the Felbermayr heavy goods port in Linz. This component weighed in at 175 tonnes, with a width of 4.45 metres and height of 5.65 metres. “Because of the dimensions the part was transferred direct to a ship after manufacture and transported via the Danube, the Main-Danube canal and the Rhine to Antwerp – its size meant that this component would have been expensive to transport by road”, says Achenrainer, emphasising the advantages of the heavy goods port as a storage and manufacturing location.

The BauTrans team ultimately succeeded in meeting the deadline and transporting all 16 components to Antwerp within a week. In turn this meant the onward shipping to Venezuela went as planned, another example of the excellent service provided by BauTrans. ■

Out in force for drying drum

Four large cranes and a self-propelled vehicle with 28 axle lines was used in July at the premises of chipboard manufacturer Egger in the Lower Austrian region of Unterradlberg. These steel giants were brought together for the replacement of a 305 tonne drying drum needed for the production of chipboard.

The installation of the equipment at the Egger works in Lower Austria took around a week. An LR 1750, an LR 1600 and an LTM 1500, together with an LTM 1400 were used for

each of the tandem lifts. Preparation for the lifts began with the two crawler cranes dismantling the old drying drum. The LR 1750 was fitted with a total of 452.5 tonnes of ballast and the main boom ex-

tended with a 28 metre high luffing jib. The LR 1600 also sported a worthy 365 tonnes of ballast and was also fitted with a luffing jib to augment the main boom. "The luffing jib was needed to be able to



Crane giants in action: Austria's most powerful cranes were used for the replacement of the 305 tonne drying drum – Felbermayr undertook the complicated lifting task using two crawler cranes made by Liebherr.



The self-propelled vehicle (SPMT): 28 axle lines were hitched in parallel for the transport of the 5.4 metre wide drying drum. The transverse steering capability made manoeuvring possible even in a very tight space.

position the drying drum with centimetre precision on the SPMT,” explains Günther Wimmer of the project management department in Wels.

Access problems

There were some access problems for the 24 metre long SPMT. The cranes were positioned around forty metres apart, with the drying drum between them at a height of ten metres. In order to get the SPMT, also known as a self-propelled vehicle, between the cranes, a slope of around eighty centimetres had to be negotiated. “We solved the problem using bongossi boards to make a ramp for the crossing,” says Wimmer.

450 horsepower SPMT

For the transport of the 28 metre long, 5.4 metre wide drying drum, the SPMT was fitted with 28 axle lines and a power pack of around 450 HP, negating the need for a tractor unit. Once the drying drum was secured at both ends the lift began. After around ninety minutes, the drying drum was in place on the SPMT and could be secured for transportation to its resting place 500 metres away. Once there the drying drum was unloaded and placed on saddle supports. “We loaded up the new drum the next day, although the journey to the drying plant and the lifting did not take place until the third day,” says Wimmer, explaining that the waiting time was necessary due to maintenance works on the remaining parts of the drying plant.

Everything to plan

The lifting into place of the new components also went to plan, which meant that Felbermayr’s work was complete by

late morning on the third day. According to information from Egger, an internationally-active supplier of timber materials, the component had to be replaced due to signs of wear.



The big names were also used for loading and unloading the self-propelled vehicle for movement around the construction site. With maximum load-bearing capacities of 400 and 500 tonnes the Liebherr cranes are among the largest of their kind.

A ship's voyage

Manufacturing work began on a new excursion boat at the premises of shipbuilder Österreichische Schiffswerften AG (ÖSWAG) in Linz at the end of June. The destination of the three-deck ship is Fussach on Lake Constance where cranes of the Felbermayr subsidiary BauTrans will be used to fit together the individual parts, which weigh up to 23 tonnes.

It's an excellent story", says BauTrans employee Jürgen Stütler, departmental manager and the man responsible for the smooth execution of the project. The crane works were planned with absolute precision and the transportation of the individual components, up to six metres wide, from Linz to Fussach, some 500 kilometres away, did not look set to cause any problems. This outstanding project preparation by ÖSWAG together with the excellent contribution by the Felbermayr employees in Wels responsible for the transportation ensured that everything went without a hitch and there was not a single delay. "With all the transport jobs we were at the construction site right on time", says Günther Trauner, manager of the heavy transport division in Wels. This was no mean achievement with load dimensions of up to six metres in width. "Even the smallest roadworks would have been enough to force us to make a detour of up to 250 km", continues Trauner.

A crane driver's jigsaw puzzle

As many as 18 lorry loads were brought all the way from Linz to the assembly site on Lake Constance. Once there the ship parts, weighing between 15 and 23 tonnes, were lifted in accordance with the instructions of the ÖSWAG employees and then welded together. The assembly work had begun by October. "By the beginning of December we had finished with the heavy parts", says Stütler. The lifting operations were carried out by mobile cranes with maximum load capacities of up to 200 tonnes. The task was like an outsized jigsaw puzzle for the crane drivers, with parts weighing many tonnes to be fitted together with millimetre precision. But it was ultimately a great experience for all involved to see the jigsaw growing, producing on completion of the shell assembly a ship eighty metres in length weighing in

at around 400 tonnes. The "MS Bodensee" was taken to a shipyard in Friedrichshafen for its final fitting out. The ship, with a carrying capacity of 700 passengers, will be launched in June 2010.

THE MS BODENSEE	
Length:	approx. 58,2 m
Width:	approx. 12,22 m
Draught:	approx. 1,65 m
Verdrängung:	approx. 470 t
Speed:	22 km/h
max. speed:	26,6 km/h
Drive system:	2 Schottel rudder propellers, STP 330
Main engine:	2 Scania-Dieselmotoren DI 1652 M
Seats inside/outside:	300/400
Use:	Excursion routes, Überlingen
Launch:	Summer 2010
Cost:	EUR 8 million



PHOTOS: ÖSWAG, BAUTRANS



A strand jack system, supported on a skidway, enabled horizontal and vertical movements of the load in direct succession.

Strand jack system in action

For the second time, Felbermayr undertook a complicated bridge crossing for a power plant in Spain. But unlike the operation two years ago, this time the job for ALSTOM Power included setting up a generator foundation using a strand jack system.

The starting point for the transport of the 315 tonne generator was the Alstom works in the Polish city of Wrocław. From there it was taken around 3,000 kilometres by rail, ship and road to less than a hundred meters away from its foundation – without any notable problems. But a bridge that could not have supported the weight of the transformer halted the transport operation. A special bridge crossing system which involved practically erecting a bridge over the bridge provided the solution. “In this way we could get the generator across the bridge within two days”, says Peter Stöttinger of the project management division in Wels. That may seem like a long time to cross a hundred-metre long bridge, but if you consider that 24 lorry loads were needed to transport the construction materials and it took six days for the installation and dismantling of the heavy load equipment, the complications of such an operation are put into perspective.

Fighting gravity

Following the bridge crossing and the transportation, it was a matter of lifting the transformer onto a five-metre high foundation. This involved a great deal of preparatory work which, just like the whole operational undertaking, was performed by Schwermontage Hilden, under the direction of Erich Bollenbeck. But before the lifting of the transformer could begin, end caps weighing 35 tonnes had to be put in place by the Alstom fitters; this gave the generator a final mass of 350 tonnes. “But that is not a particularly difficult challenge for our strand jack system”, observes Stöttinger. With a maximum load capacity of some 400 tonnes per strand jack, the system was using less than 15 percent of its potential capacity. The system essentially consists of a load-bearing structure for the jack, with centred steel strands fed through and a

hydraulic high pressure unit for raising the strands and lifting the load. The system is completed by a control unit. A lot of experience and fine feeling are needed to control the speed properly, says Stöttinger. In the case of the generator it took a few hours before it was suspended five metres above ground as planned. Now the generator had to be moved a few metres to the right – above the foundation – by means of what is known as a “push-pull cylinder”. This was also a time-intensive task, and so a whole day had gone by before the 350 tonne precision part could be securely and precisely set down on the foundation. “We are pleased that the client once again had confidence in us to undertake the bridge crossing and that this time we could also put our know-how to good use by positioning the component using the strand jack system”, says Stöttinger of the job undertaken for the internationally renowned company Alstom. ■

Cheers, Bibendum!

Bibendum – or Bib for short – is famous worldwide as the trademark of Michelin. But only a select few know how the Michelin Man came by his name.

At the International Exhibition of 1894 in Lyons the brothers André and Edouard Michelin presented their new invention: pneumatic tyres, which “swallowed” obstacles. During a walk around the exhibition site, their attention was drawn to a pile of different-sized tyres: “If he had arms, he’d almost look like a man,” says Edouard as he looked at the white tyres, which at that time were still made without the addition of carbon black to the rubber. This comparison came back into the mind of André Michelin a few years later as he was looking at a poster for a brewery, showing a stout Bavarian drinking beer. “Nunc est bibendum – now let us drink” was written underneath in bold lettering.

The Michelin tyre swallows obstacles!

With the help of artist O’Galop the brothers designed a poster with the same Latin phrase. The rotund beer drinker was replaced by a white stack of tyres with a face and arms. Instead of the beer tankard he is raising a cup of glass shards and nails as if to toast the observer. “Nunc est bibendum” –



1894 – A stack of white rubber tyres provides the idea for the Michelin Man.

“Cheers – Michelin tyres swallow up obstacles” was the slogan with which the Michelin Man greeted the world in 1898, and from which he ultimately gained his name.

From smoking kickboxer to popular figure

The Bibendum of the turn of the century, with his cigar, signet ring and portly figure was supposed to reflect the kind of gentleman who would buy Michelin tyres. On the early posters he appeared in aggressive poses with a serious expression, sometimes in the role of gladiator or even kickboxer. Over the years his expression became friendlier and his lifestyle increasingly healthier:

Bibendum gave up smoking and embarked on a serious weight loss programme, over the course of which the number of his rings gradually decreased.

Into the future with Bibendum

Today the Michelin Man is world famous as a trade mark. It has been the subject of a dedicated exhibition, made a guest appearance in an Asterix comic and was the idea behind the “Challenge Bibendum” event initiated in 1998 by Edouard Michelin. This competition gives awards to vehi-



1898 – The first appearance of a legend: “Nunc est bibendum”.

cles and mobility concepts that are especially environmentally friendly and offers scientists, inventors and car manufacturers a forum for their ideas. Bibendum is therefore not only very versatile but above all a symbol of the tradition and the future of the Michelin brand.



2007 – Modern animation techniques give Bibendum a third dimension.





From L to R: Peter Linimayr, Florian Katzinger, Josef Pühringer

AWARD-WINNING Training for the future

Great importance is attached to training at Felbermayr. Young people in particular are given every encouragement, and it is particularly pleasing when trainees pass their final exams with a distinction. Florian Katzinger of the Linz branch achieved this aim. He has been helped and supported on his way towards becoming a qualified office administrator by branch manager Peter Linimayr and commercial manager Gisela Cservenka. He was also congratulated by head of the provincial government, Josef Pühringer.

We would also like to congratulate **Daniela Pocherdorfer** and **Antonija Sosic** of the Heavy Transport and Administration divisions in Wels, who have successfully completed their office administration qualifications, and **Robert Krennmair** and **Mario Kaufmann** of the Wels workshops, who have passed the motor vehicle technician exam. **Sahir Fartakh** of Heavy Transport in Hilden successfully completed the "Shipping and Logistics" training course, while **Daniel Mentin** and **Andreas Mathis** of BauTrans in Lauterach are congratulated on becoming qualified forwarding agents. We wish them all every success in their future careers and lives, and look forward to working together for many years to come.

ANNIVERSARIES THANKS AND CONGRATULATIONS

The group has more than 1,800 employees. Each and every one of them contributes to the performance of the company. Those employees with many years' service are particularly important to us. Their experience and consistency are the foundations of Felbermayr's success.

40 YEARS Franz Brendle – Cranes/Heavy Transport Wels · Albert Rauch – Heavy Transport Wels · Alois-Franz Zwidl – Construction Wels **35 YEARS** Gerhard Peissl – Cranes/Heavy Transport Wels · Karl Söllner – Construction Grieskirchen · Jan Szyszka – Administration Wrocław **30 YEARS** Liliana Filipowicz – Administration Wrocław · Walter Sperz – Construction Wels **25 YEARS** Petra Beldovics – Administration Linz · Ante Kajic – Heavy Transport Wels · Franz Müller – Construction Wels · Leopold Pfeffer – Gravel Wels · Otmar Witzeneder – Construction Grieskirchen **20 YEARS** Erich Bollenbeck – Heavy Assembly Hilden · Roman Gruber – Heavy Transport Wels · Wolfgang Löffler – Sareno Ulrichsberg · Georg Nenad – Construction Wels · Heidelinde Schellerer – Administration Wels **15 YEARS** Franz Fischer – Sareno Ulrichsberg · Thomas Grabuschnigg – ITB Lanzendorf · Horst Hesener – Heavy Transport Hilden · Günter Hörtenhuber – Waste Management Wels · Gottfried Hrast – Cranes Linz · Martin Humer – Administration Wels · Rene Lasthofer – Project Wels · Michael Liebezeit – Workshops Hilden · Roland Löffler – Sareno Ulrichsberg · Stanisa Lukic – Workshops Wels · Notburga Rosic – Administration Wörgl · Gerd Sprenglewski – Heavy Transport Hilden · Ferenc Szabó – BauTrans Ungarn · Günter Wimmer – Heavy Transport Wels · Günter Zehetmair – Waste Management Wels · Alfred Zehetner – Construction Wels

Competition

Prize question:

What did Felbermayr Specialised Civil Engineering install at Landl station near Hieflau, Austria?

You can find the answer in this booklet. We will again be drawing winners of the 15 non-cash prizes from amongst the correct entries. For further information, please visit www.felbermayr.cc/informer – click to enter!

Please send us the correct answer by fax **+43 7242 695-144** or e-mail informer@felbermayr.cc.

The closing date for entries is 31. 03. 2010. There is no legal recourse.



1. prize

A 1:50 scale model of the LTM 1200-5.1. This model crane is a special limited edition in the Felbermayr colours, made from diecast aluminium

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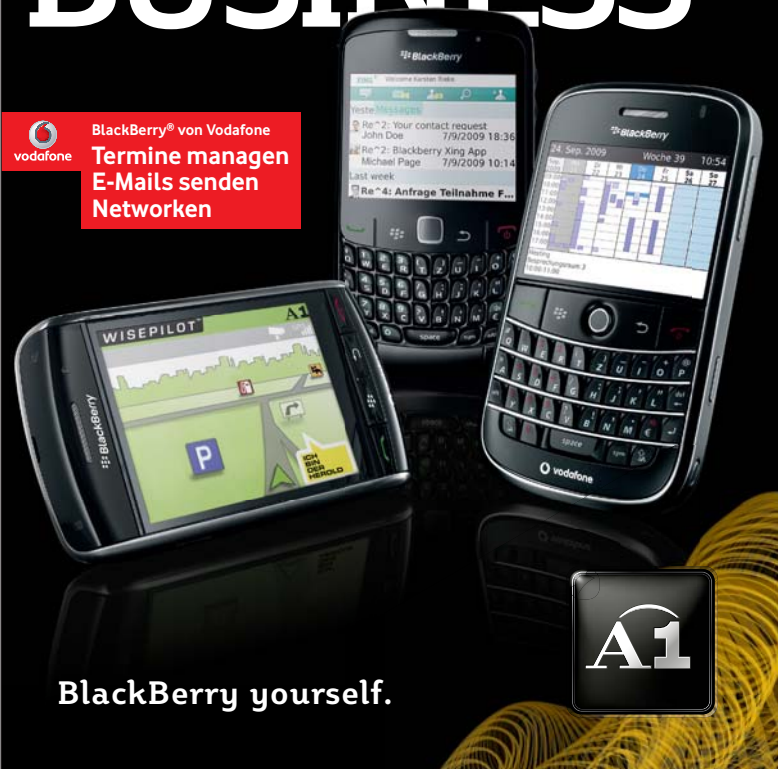
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