NEWS

MeWa Recycling Anlagen
Der Pionier

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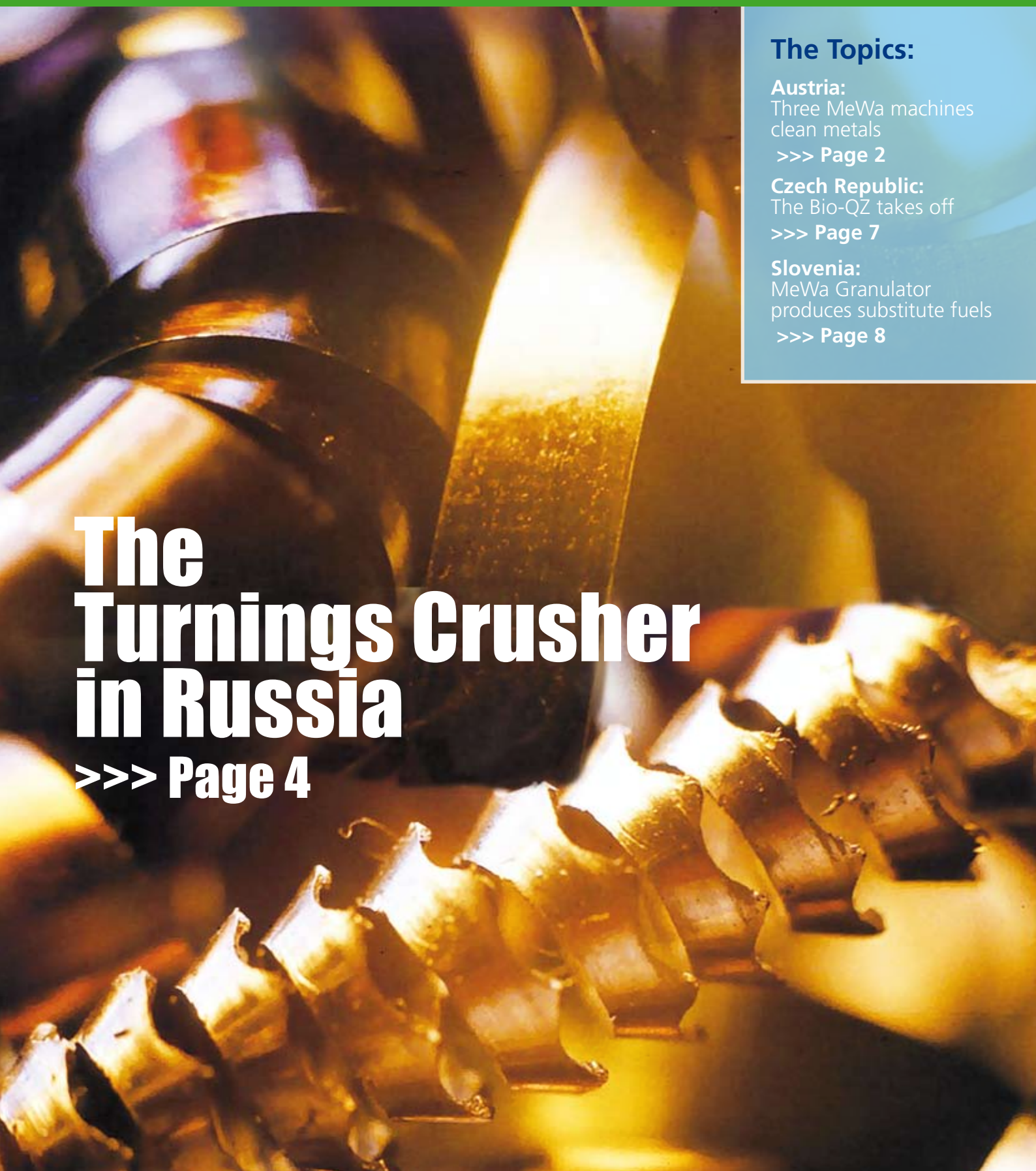

The Topics:

The Turnings Crusher in Russia

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Cleaning metals in the Ecoregion Kaindorf

Gaugl Metallhandel opens new site with MeWa technology

Styria in Austria is another big environmental project richer: Gaugl Metallhandel GmbH opened its new 22,000 sq. m site in the Ecoregion Kaindorf with a great celebration. The new MeWa technology enables the company to respond optimally to the variety of materials and thus to emerge on the market as a sorting and processing plant for scrap metal.

Environmental awareness has always played a big role in Austria. This can be seen not only in the anti-nuclear stance of the Austrian population but also in the implementation of many innovative environmental projects such as, for example, the introduction of the biodegradable plastic bag.

Ecoregion Kaindorf

Six communities in Styria have gone a step further, by joining together in 2007 to form the „Ecoregion Kaindorf". The Ecoregion Kaindorf runs an ecological recycling economy and is largely self-sufficient thanks to its use of renewable energy. It would therefore soon like to become a model region for the whole country. The aim is to achieve CO_2 neutrality by 2020. Each individual citizen is brought on board and is therefore able to make his contribution to the pursued objective. This should not only move the region forward ecologically but should also help to boost the economy. The Gaugl Metallhandel GmbH company has now consciously invested in a new site in this region.

ÖkoregionKaindorf
Dienersdorf · Ebersdorf · Hartl · Hofkirchen · Kaindorf · Tiefenbach

Launched in 1972 as an individual enterprise in the field of scrap car recycling, the Gaugl company continuously developed its range of services. Over the years, the two core businesses commercial vehicles workshop and Gaugl Metallhandel GmbH were formed.

This company, which provides the majority of Gaugl Holding's total revenue, collects scrap metal from the production, construction and household fields as well as metal-containing composite materials, commercial waste, scrap wood, used tyres and scrap cars.

Ecological concept

Expansion, a higher volume of orders in recent years and growing environmental awareness meant that within just six weeks a new site was developed, with more room and modern plant technology. The photovoltaic system on the hall roof and the passive house office building show that the environmental awareness of the region matters a great deal to Gaugl Metallhandel GmbH. Up to a third of the power requirement can be self-produced and, most importantly, is „green". The company paid out 7.2 million euros for the entire project and invested in a brand new plant design for the whole of Austria.

Successful project: Gabor Vidak and Éva Takacs (MeWa sales region East).

With music, everything is easier. At the opening, the MeWa UC immediately had a lot to do.

A choice of two plant lines

Gaugl Metallhandel GmbH now has a choice of two different pretreatment procedures. This allows the optimum procedure to be used, depending on the material composition.

From left to right: Hermann Grassl (Mayor of Hartl), Monika Gaugl, Alexander Gaugl, Josef Singer (Mayor of Tiefenbach)

Bulk of work for MeWa machines

No matter which line is used for breaking down material, the job always belongs to a MeWa machine. Whether the material is aluminium/iron rope, steel wire, aluminium/plastic profiles or reject rope from the paper industry, the UC 130 Rotary Shear shows tenacity and grinds the material to the optimum size for the subsequent process. A UG 1600 MSL Granulator then further grinds the material down to a size of 30 mm.

The second line is defined by a Querstromzerspaner QZ 1600 cross-flow shredder. The material processed here is primarily a mixed, contaminated scrap fraction which, in this state, is practically worthless. The MeWa QZ with its rotating chains breaks up the composite materials within seconds. The individual fractions such as iron, aluminium, copper, plastic and textiles are discharged separately from each other. Subsequent sieves and iron separators now have an easy job.

Both lines finally meet up on a collating conveyor for final cleaning. There, a drum magnet removes any remaining metal parts. In the last step, a non-ferrous separator separates off the aluminium and copper from the residual fraction. At the end, the fractions have a high degree of purity and can be sold on to material users for a good price. The MeWa Querstromzerspaner has therefore now also made a name for itself as a professional metal-cleaning machine.

Celebratory opening

In traditional Styrian style, the new site was opened with a great celebration. In numerous guided tours for politicians, press and many other invited guests, the MeWa Rotary Shear, Granulator and Querstromzerspaner machines quickly became the stars of the show.

The new recycling plant further enriches the Ecoregion Kaindorf, becoming a role model for the whole country. And this was the precise intention of the project. ■

Metal chips

The Turnings Crusher in Russia

Russia is one of the five biggest steel producers in the world. In 2010, the figure was around 67 million tonnes. And rising. About half of the crude steel is produced from recycled material. For industrial waste, the MeWa Querstromzerspaner has made a name for itself as a turnings crusher.

Wherever you plane down wood, there will be shavings. This piece of wisdom from the carpenter's workshop also applies, in principle, to metal processing. In industrial plants, turnings are created by cutting metal. In contrast to wood machining, the tangle of metal turnings can be reused without any loss in quality.

However, this does depend on them being properly processed beforehand, as the spiral-shaped turnings often tangle themselves up into large bundles, take up a lot of storage space and are awkward to transport.

If nothing else, the forthcoming Winter Olympic Games in Sochi and the Football World Cup in 2018 have caused the Russian railway infrastructure to be modernised. Moreover, government programmes have initiated a building boom. The steel industry will benefit from all of this.

Scrap metal is on the rise

Steel scrap can be infinitely melted down and reused in new products, without any loss of quality. Recycling is also much more economical than obtaining the same amount of steel from ore. Almost half of Russia's annual steel production is covered by scrap metal.

Secondary raw materials are supplied by scrap dealers. Here the MeWa Querstromzerspaner has already proven itself several times in processing industrial burr waste.

In Kineshma, a town with a population of 500,000, situated north-east of Moscow, NPO Russkij metall operates one of its 40 scrap yards. In this Volga river town, the company processes metal turnings into briquettes and then supplies them straight back to the steel industry.

Strong together in turnings processing: L to R – Gerhard Nowak (MeWa), Denis Osovskoy, Elena Yanishevskaya (both Salem Ehitus), Ulrich Hink, Peter Duda and Inge Schaitel (all MeWa).

QZ 2000 in action

Since 2009, Russkij metall has also relied on a MeWa QZ 2000 HD. The patented machine first reduces the volume of the turning bundles. Solid metal parts, which appear amongst the production waste time and again, are no obstacle. Not fitted with any cutting systems, the QZ grinds up to 18 tonnes of turnings per hour into small, homogenous parts. A downstream sieve then removes the solid pieces from the flow of material.

Finally, special presses compress the broken turnings into briquettes. This not only enables easier and more space-saving storage and transportation of the metal, but also makes the metal better suited to the smelting process. During the briquetting process, over 90% of the oils and water content are pressed out.

The Russian MeWa sales partner Salem Ehitus has already implemented several projects using the Querstromzerspaner as a turnings crusher. The robust and wear-resistant machine is currently being prepared for delivery to a scrap processor in Siberia. Because where steel is used, there will be turnings. ■

The QZ 2000 processing metal turnings.

Metal turnings ready for sale.

The changing face of Lusatia

From lignite mining district to energy and holiday region

The Lusatia region in east Germany is in the middle of a huge structural change. At the gates of the city of Hoyerswerda, Europe's largest artificial water landscape is being developed. Where once there was lignite excavation, now there are sailing boats. New ideas, such as ambitious tourism concepts or innovative industry projects, like the used tyre processing at TPL GmbH, are currently in demand in the former lignite opencast mining region.

The Lusatia region and lignite opencast mining are inextricably linked. The first briquette factory in Europe was opened in this east German area as early as 1882. When building work started on the Schwarze Pumpe lignite refining plant in 1955, many new jobs were created. A prefabricated socialist housing estate, Hoyerswerda-Neustadt, was built for the workers; the population of the Saxony city rose to over 70,000 in 1981.

That's just 30 years ago. After the reunification, the mining and energy industry in Lusatia collapsed. Since then, about half of the inhabitants have moved away from the town that was once the youngest in the GDR.

Great changes in the region

Even so, 33 percent of German lignite is still produced in the Lusatia region, so there are mixed feelings about lignite mining. On the one hand, many jobs depend on it; on the other hand, opencast mining brings with it many problems: ground water drawdown, high carbon dioxide emissions from the power plants and the relocation of entire villages. Abandoned lignite mining regions also leave behind huge open pits which cannot be filled.

The region is making a virtue out of necessity: former opencast craters are being flooded. This creates a spectacular water world with over 20 lakes, which together will form the largest artificial water landscape in Europe. With this lakeland, Lusatia completes its leap from lignite mining region to recreational landscape.

Tyres as raw material supplier

TPL GmbH offers another perspective for the industrial town of Hoyerswerda. In doing so, the company draws on the tradition of the energy region. The difference: in place of lignite, used tyres are used as a supplier of energy and raw materials. First, the pre-granulated tyres are ground down to a small grain size in a MeWa UG 1000 MSL Granulator, then the steel wire is refined. This purity of the rubber fraction is sufficient for the subsequent thermal process step.

Future perspectives

Using its self-developed process, TPL produces thermal energy, carbon black as a filling agent and dye for the plastics industry as well as other chemical products such as oil, for example. Roughly one or two tonnes of used tyres per hour can be processed in this way. When the research is finished, the company hopes to offer over 30 jobs at the new site.

And together with the charming lakeland tourist destination, Hoyerswerda will hopefully soon become a popular attraction. ■

Structural change: Holiday in the lignite mining.

The UG 1000 Granulator in action.

RE POWERING in the Czech Republic

Bio-QZ is installed on a biogas plant in Southern Moravia

With EU funds, one of the largest biogas plants in Europe was created in Southern Moravia in the Czech Republic during 2006. Since then, the plant, which is situated near Znojmo, has been producing 2.1 MW of electrical power. Now the plant has been modernised – with the help of the MeWa Bio-QZ.

The retrofitted Bio-QZ 900.

In an agricultural business in the vicinity of the Southern Moravian town of Znojmo, five generators operate round the clock and together supply the national grid with 2.1 MW of electrical energy. In addition, eight digesters are distributed throughout the compound. Inside, a wide variety of input materials ferment and produce methane gas for the generators.

Versatile bio material

The plant accepts the maize and grapes as well as out-of-date fruit and vegetables from supermarkets, potatoes, grass cuttings or leftovers from canteens. The European Union contributed a million euros to the total investment of 6 million euros.

Thus, one of the largest biogas plants in Europe, at the time, was created. However, over time, the model plant developed several procedural problems: To process the substrate, a granulator was originally installed whose knife system was very prone to wear. In addition, the machine was not able to digest the material properly, so the conveyor would keep getting blocked.

Chains instead of knives

The substrate processing procedure was recently completely redesigned. A MeWa Bio-QZ 900 was installed directly above the pit. In short machining cycles, the machine digests the cell structure of the material. In doing so, the system parameters of the Bio-QZ are individually adjusted to the current consistency of the various substrates.

In the pit, the material is mixed with pig slurry from a nearby farm, run through a hydrolysis process and then dispensed to the fermenter. There is currently an authorisation procedure in progress for the processing of packaged food and abattoir waste. Even this is a suitable job for the MeWa Bio-QZ. ■

Znojmo

This small town (approx. 35,000 inhabitants) in the South Moravian region of the Czech Republic is situated on a rock outcropping on the steep bank of the Dyje river. Znojmo lies near the border with Austria and, as a former royal town, has a very well-preserved medieval centre.

Substitute fuels in Slovenia

Slovenia has long had a nationwide ban on landfilling waste. Both the collection system and the processing of the recyclable fraction is suitably well organised. The MeWa Granulator is used in many companies as a universal machine for this purpose. This is true in Novo Mesto for the manufacture of substitute fuels.

The MeWa UG 1608 MSL Granulator produces substitute fuels.

In Slovenia, waste is gathered and collected separately in all parts of the country. For organic waste the Ekosistemi/Koto group of companies has already relied on the Bio-QZ in the past. For one of its first ever uses, the MeWa machine was installed in the biogas plant at the Koto company in Ljubljana.

Now the company has also invested in MeWa technology for the manufacture of substitute fuels. At the head office in Novo Mesto, a new MeWa UG 1608 MSL Granulator will, in the future, process the fractions that have a high calorific value. The powerful MeWa machine is already carrying out this function in several companies in Slovenia.

In this EU country, waste must be processed according to environmental law. Ekosistemi, a medium-sized waste management company has up to now been primarily collecting waste wood in order to make it into wood shavings.

Now the service programme has been expanded. Using its own collecting system, Ekosistemi now gathers more commercial waste and also procures packaging materials from sorting plants as well as bulky items. But even mattresses are accepted at the premises of a former brick factory in Novo Mesto.

The MeWa Granulator will in future process some 7 or 8 tonnes of material per hour to a homogenous grain size of 25 millimetres. In this way, Ekosistemi can supply its domestic cement industry with over 15,000 tonnes of substitute fuels every year. ■

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Novo Mesto

Novo Mesto, with its 25,000 inhabitants, lies in the south west of Slovenia near the Croatian border. The town is considered the centre of the Lower Carniola region.