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RAW MATERIAL FROM SCRAP METAL – A MUCH SOUGHT-AFTER RESOURCE

contents

SCRAP METAL – A MUCH SOUGHT-AFTER RESOURCE

In the past, REMONDIS had only been marginally involved in the recycling of steel scrap and non-ferrous metals. The situation has changed now thanks to the takeover of the market leaders, the TSR Group. In the future, REMONDIS will be feeding 9 million tonnes of metal back into the circular-flow economy. **Page 12**

BIOGAS FROM THE PRODUCTION OF CHEESE

The production wastewater at the Küstenland Milchunion plant in Altentreptow is perfect for generating energy. REMONDIS has built a combined heat and power plant specifically for this purpose. REMONDIS, being the contracting partner of this dairy product manufacturer, cleans the waste-water and produces biogas at the same time. **Page 17**

GREAT ENTHUSIASM FOR BIOMASS

Five to six million tonnes of waste timber is used in German biomass-fired power plants each year to generate alternative energy. REMONDIS has put a new power plant into operation at its site in Lünen which shall be fired using waste timber. The Minister of the Economy of the state of North Rhine-Westphalia, Christa Thoben, showed her great enthusiasm for biomass-generated energy at the official opening ceremony. **Page 18**

NEWS

REMONDIS / WATER RESOURCES MANAGEMENT

REMONDIS / ENVIRONMENTAL SERVICES

PEOPLE

Flag

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Thomas Conzendorf

EDITORIAL

Dear Readers!

WELCOME TO REMONDIS

"REMONDIS becomes Germany's largest steel scrap recycler" – this was one of the headlines printed in the newspaper, 'Das Handelsblatt', at the beginning of August. And this statement is indeed true: being part of a consortium to take over the TSR Group, we have become the leading business on the market for steel scrap and non-ferrous metal recycling. This new business field fits into our existing portfolio perfectly and nicely rounds off our range of water and environment services.

The TSR Group is a healthy business, a fact which can certainly be put down to its qualified and committed workforce. These people now know that their company has a secure future – and I am very pleased to be able to welcome them to our company group. Together we will continue along the successful path that the TSR Group had begun to go down. You can read more about this on pages 12 and 13.

RESCUING THE DUAL SYSTEM

Over the last few months, REMONDIS has succeeded in further expanding its business and implementing future-oriented projects despite the overall difficult market situation. Some of these projects, which we have written about in this edition, include the start-up of our biomass-fired power plant in Lünen, our new treatment plant in the Rhineland, the partial takeover of AWISTA and ATG & Rosendahl in Düsseldorf as well as the expansion of our company activities in Poland, Australia and Switzerland.

Particularly pleasing news for us is that our company, EKO-Punkt, which began operations at the beginning of the year, has been approved as a Dual System business in Hamburg. Further German states will be following suit over the coming months. Connected to this, it is very pleasing to see that the Packaging Ordinance is soon to be amended. It is high time that it be adapted to altered market conditions and so prevent the whole household recyclable waste collection system from collapsing. To learn more, turn to page 6

INVESTING IN YOUNG PEOPLE

The German Ministry of the Environment has started a project calling for more trainee positions to be created and is asking companies active within the environmental branch to fulfil their social responsibilities. REMONDIS is supporting this project.

We realize just how urgent this problem is: the trainee situation for young people in Germany is more difficult than ever. For this reason, REMONDIS and its sister companies, SARIA and Rhenus, took on just under 300 trainees and apprentices this summer. A total of 900 young men and women are, therefore, taking part in training programmes within the company group. We are proud to be able to provide them with qualified training programmes and wish them every success in this first step on their career ladder. More can be read about this on page 34.

I hope you enjoy reading this issue!

Thomas Conzendorf, Board Member

Organic waste

Better soils – a better climate

THE GERMAN GOVERNMENT CALLS FOR ORGANIC WASTE BINS TO BE IMPLEMENTED THROUGHOUT THE WHOLE OF THE EU

Germany is standing up for the idea of introducing the separate collection of biologically degradable waste throughout the whole of Europe. For the most part, Europe's organic waste remains an unused resource. Even in Germany, only every second household has an organic waste dustbin.

"Organic substances must be put back into soils, especially into purely agricultural land, otherwise the result will be a loss in soil fertility. Besides agricultural biomass, the greatest source of humus is organic waste."
Dr Helge Wendenburg, Departmental head at the German Ministry of the Environment

Banana skins, hedge cuttings, coffee filters, lettuce leaves: each year more than 100 million tonnes of organic waste is generated across Europe. In a large number of European countries, however, it is not separated from general household waste. This means a great potential is lost as excellent composts and soils can be produced from organic waste which can be used to enrich the humus content in soil – the best proof of this is REMONDIS' range of RETERRA composts. The soil in many European countries could well do with this as the humus content of the agricultural land is worryingly low in many countries. Instead though, organic waste continues to be dumped at landfills in a large number of EU states. And this is not doing the environment any favours either: organic waste deposited in landfills releases methane gas which fuels climate change and means the declared targets of the Kyoto Protocol are in danger of not being reached.

Dr Helge Wendenburg, head of the department responsible for waste management and soil protection at the German Ministry of the Environment, comments, "The 1999 EU directive concerning landfills states that the volume of biologically degradable waste dumped at landfills must have been reduced by 65 percent by the year 2016. If this directive is strictly followed then the amount of methane gas can be reduced by 3.5 million tonnes." Germany, Austria, Spain and Portugal are, therefore, speaking out vehemently in favour of an EU directive for organic waste.

So far, half of all households in Germany have an organic waste dustbin. Experts believe this figure is still too low. Aloys Oechtering, head of REMONDIS' composting division, stressed, "Each year, more than 4.5 million tonnes of organic waste lands unused in the bins for general household waste in Germany." The Law on the Circular-Flow Economy and Waste Management, however, clearly states that priority must be given to recycling rather than disposing of waste. The argument put forward by municipalities that the financial

burden of organic waste bins is too high for its citizens, has recently been proven wrong by the updated study, "A consideration of the costs for the separate collection and treatment of organic waste" drawn up by the Institute for Waste, Wastewater and Infrastructure Management (INFA). The results of this study show that the separate collection of household and organic waste is ecologically and economically sensible both for urban and rural regions. The higher logistics costs would be more than evened out by the difference in costs between disposing of residual waste and recycling organic waste. According to the calculations published, rural municipalities could save around 14 percent by introducing organic waste bins and municipalities in urban regions 3 percent. The quintessence is, therefore, that – in most regions – "significant cost savings" could be achieved if a separate collection of organic waste is implemented consistently.

The conclusion: "Today, there are no valid reasons for not having organic waste bins," Aloys Oechtering believes. "The separate collection of organic waste means a reduction in fees. The large number of households which already have such a bin has proven this. The fact that very few things are thrown into the bin that do not belong in it – approx. 96% is purely organic waste – also proves the high acceptance of the citizens for this system. It is no longer possible to picture the fertilizer market or soil production without compost products." *(dartsch)*

Each year, the average per capita amount of biologically degradable waste collected in Germany lies at 100 kilograms (source: German Ministry of the Environment)

> “ If the packaging recycling market is to develop in an economically sensible manner, then it is essential that an end is put to the illegal implementation of self-disposal systems and that the so-called copycats join one of the systems.”
>
> Thomas Conzendorf, Board Member at REMONDIS

German Packaging Ordinance

A solid base for Dual Systems

THE MINISTRY OF THE ENVIRONMENT PREPARES THE 5TH AMENDMENT TO THE PACKAGING ORDINANCE

All good things come in five – at least this is what the German Ministry of the Environment is hoping with its 5th amendment to the German Packaging Ordinance which is due to be dealt with soon. Its aim is to ensure that the household collection of sales packaging once again has a solid financial basis.

The system is suffering as a result of copycats and those refusing point blank to take part. A comprehensible certification system for retailers and the industry concerning the whereabouts of packaging is well overdue and quotas should be abolished. The branch is of one mind: an amendment to the German Packaging Ordinance is absolutely essential if the Dual Systems in Germany are to have a future. "We are drawing up this amendment because the financing is not secure and so household collection is at risk," explained Thomas Rummler, head of the waste management department at the German Ministry of the Environment.

The Ministry is currently working on drawing up a draft statute; a cabinet decision should have been reached by the end of the year. The aim is to ensure that manufacturers and dealers in sales packaging finance the actual disposal costs and that all sales packaging is collected and paid for without exception no matter which Dual System operator is responsible for the work. There should be a clear division between household collection and self-disposal systems and the limited possibilities of self-disposal should be stipulated more precisely and be more strictly controlled.

The current direction of thoughts is to set up a supervisory instrument run by the private sector similar to the Used Electronic Appliances Register (Elektro-Altgeräte-Register/EAR). Mr Rummler stressed that "the collection of packaging by private business enterprises works well". Branch experts, therefore, believe that the household collection will not be moved into public hands. *(dartsch)*

"There are no plans to shift the areas of responsibility concerning the disposal of packaging currently held by the manufacturers and retailers to public waste management authorities."
German Ministry of the Environment

A commentary on free competition

Counteractions against the liberalization of the market

A GUEST COMMENTARY BY ANNE BAUM-RUDISCHHAUSER, HEAD OF THE BDE OFFICE IN BRUSSELS

The German circular-flow economy is in danger of undergoing a far-reaching transformation. Earlier attempts of German legislators to open up the market to private know-how and capital through the Law on the Circular-Flow Economy and Waste Management are being counteracted by the latest developments at both European and national levels. The private circular-flow economy is being sandwiched from two sides. The market is being forced backwards by new regulations for inter-municipal cooperation on the one hand and by waste management autarky, on the other hand.

"European policies should not be misused to carry out national market sharing at the expense of the private sector and so place free markets back into the hands of public businesses."

Inter-municipal cooperation work through the creation of special-purpose associations is a new instrument that enables municipalities to avoid having to go through obligatory contract award procedures and so avoid competition. Special-purpose associations are no longer being founded to increase administrative efficiency. The aim is rather for one of the special-purpose association members to take over the waste management tasks for the others by running its own business. The function is the same as that of a typical contract award process. German law, however, hides behind the sweeping and out-dated explanation that it is merely a reorganization of an internal administration system. This formalistic point of view overlooks the reality of the situation. Showing such understanding for inter-municipal cooperation work limits the scope of the market for private environmental service businesses.

At the same time, environmental law is being misused to re-organize the market in favour of municipalities. The revision of the Waste Framework Directive is not only being used by both municipalities and the Federal Government to stop moves towards further opening up the domestic market for recycling waste but also to undo the steps already taken.

The Federal Government would like the treatment of mixed communal waste from private households, and possibly all waste for incineration, too, to be state-controlled again. There are no environmental reasons here to justify such a move; it is simply putting up a screen in the market which is one-sided and protects municipal waste management structures. Such a regulation would have neither long-term ecological or economic advantages.

Over the last 20 years, the interaction between environmental protection and the internal market has resulted in an upward spiral of events. The more the market has been opened up, the higher the European environmental standards have become. If national markets start protecting themselves, then the move towards the harmonization of environmental standards will be stopped.

SHORT PROFILE

- Studied Romance languages, German and linguistics in Munich, Coimbra and Strasburg
- Translator for the European Union
- Scientific staff member at the European Parliament (Environment and Waste Law)
- Consultant at the Federation of German Industries
- Head of the Brussels Office and a member of the management of the BDE (Federal Association of the German Waste Management Industry)

“ German municipalities and the Federal Government are trying to establish regulations through planned laws and political initiatives which aim in part to reverse the steps already taken towards an open market.”

Proof that the creation of a competitively organized European internal market for water and environmental services can have a very positive effect on both the environment and the economy can be clearly seen in Germany where the market has been partially opened up to the private sector.

The opening up of the market meant that innovations were necessary and the result is that the member companies of the Bundesverband der Deutschen Entsorgungswirtschaft / BDE (Federal Association of the German Waste Management Industry) now own highly technological and very efficient plants which fulfil the highest environmental standards Europe-wide. Moving liberalized markets back into state control is, therefore, a move in the wrong direction. Instead of this, the market should be allowed to continue down the same successful path it has been on. Completely opening up the market would create a clear regulatory framework and benefit both the environment and the economy.

EU environmental policies

Europe is in favour of a circular-flow economy

AN AMENDMENT TO THE WASTE FRAMEWORK DIRECTIVE IS IN SIGHT

The European Union wishes to establish a circular-flow economy in all EU member states. Waste should be avoided as far as possible or be used as a resource. EU environmental law has, in many cases, failed to be implemented because of a lack of definitions and poor translations.

On average, each citizen in the European Union produces 550 kilograms of waste each year. This is over 200 kilos more than the EU's target set in 1993.

The Waste Framework Directive

Environmental politicians in Brussels are striving for an amendment to the 1975 EC Waste Framework Directive. Their main aim is to drive forward the protection of the environment and resources in all EU member states as well as to achieve a uniform and high standard level. European waste law is to be simplified and expressed in more concrete terms. A strategy document already exists. Changes can only be made to the Waste Framework Directive, if they are agreed to by both the Council and the Parliament in an identical ruling. The European Court of Justice uses the Waste Framework Directive as its basis when making its judgements.

The crunch points

There are already enough processes and different kinds of technology to enable the European circular-flow economy to develop. And there has not been a lack of regulations, either. The implementation of the laws, however, often fail because of the woolly concepts and vague definitions; different interpretations and legal battles were inevitable. This situation is now to be improved. Terms such as 'recycling', 'disposal', 'product' and 'waste' are to be clearly defined.

Another reason why there is often confusion and why the laws are implemented differently in the individual states are the poor translations of the English wording into the different languages. Dr Eva-Maria Krüger, responsible for European affairs at REMONDIS, gave an example of this, "The English term, "faecal matter" had been translated with the German word for "faeces". This would have meant that the treatment of wastewater suddenly came under the Waste Framework Directive – faecal matter actually only refers to animal excrement within agriculture."

Integration

In order for European waste law to be simplified, then the Waste Oil Directive and the Hazardous Waste Directive should be integrated into the Waste Framework Directive. Experts have pointed out, however, that the subject of hazardous waste is extremely complex and it is not possible to do without special regulations in this field.

Conserving resources

In Germany, it has been illegal to deposit untreated waste in landfills for over a year now. In contrast, other countries, such as France, England and Ireland, are still diligently depositing waste in their landfills – with the result that resources are being wasted and landfill gases are having an unnecessary negative effect on the climate. According to experts, the majority of waste in Spain is dumped in illegal landfills; many landfills in Greece, Portugal, Ireland and Slovakia do not use modern technology. The aim of the Waste Framework Directive must be to impose and implement a Europe-wide ban on landfills.

"The aim of the new directive must be to have comparable regulations on environmental protection and resource conservation throughout the whole of Europe."

Egbert Tölle, Board Member at REMONDIS

Energy efficiency

In the future, the Waste Framework Directive is to make a clear distinction between a waste incineration plant and a recycling plant. To achieve this, an energy-efficiency formula was defined for incineration plants. If a plant achieves an energy-efficiency level of 60 percent (new plants: 65 percent), then it can be referred to as a recycling plant. If this level is not reached, then it is a waste incineration plant. Dr Eva-Maria Krüger believes, "This formula is incomprehensible and wrong. In reality, it is only possible for plants in Scandinavia to achieve such levels, because they can feed more heat into the network due to their long winters. Plants in the south of Europe have no chance whatsoever of reaching this level."

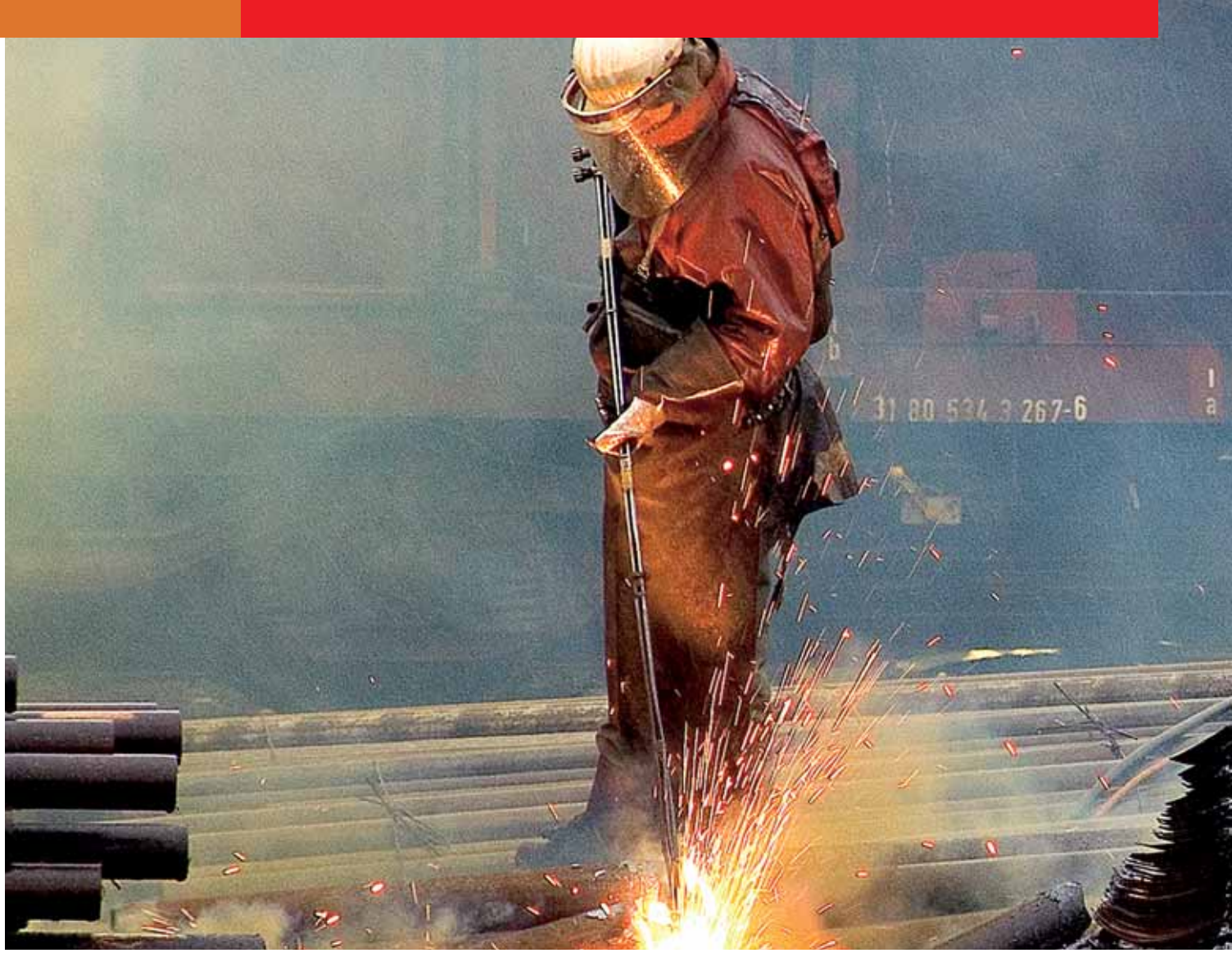
The end

When is waste no longer waste? Waste experts are currently pondering this matter in Brussels. For, at some stage during the value chain the waste becomes a product – and from a legal point of view, the point when waste stops being waste is of great significance. Material is, for example, no longer waste, if it is completely destroyed – for example in an incineration plant. Material is also no longer waste, the experts say, if it cannot be recycled or cannot be used for another purpose without some kind of chemical-physical transformation. Furthermore, the point when waste is no longer waste is not reached until the original substance has been deliberately changed in such as manner that a new product has been created. Very, very complicated. Maybe the new Waste Framework Directive will be simplified – there is no way, however, that this will mean that it will be simple.

(krüger/dartsch)

"Very good recycling quotas are already being achieved in Germany, Austria, Scandinavia and the Netherlands. Other countries, such as Great Britain, Ireland, Greece, Slovenia and Slovakia, are, in comparison, still are long way behind."

Dr Eva-Maria Krüger, responsible for European affairs at REMONDIS



Expansion

The raw material steel – a much sought-after product

REMONDIS IS GERMANY'S LARGEST METAL RECYCLING BUSINESS

The news spread like wildfire on 2nd August: REMONDIS had taken over the TSR Group making it the largest scrap metal recycler in Germany, the Czech Republic and the Netherlands. The company will, in the future, be feeding around 9 million tonnes of steel and non-ferrous metals back into the circular-flow economy.

TSR is a well-known name within its branch. The company is market leader in the area of collecting, sorting and recycling metal scrap. The TSR Group has more than 80 branches in Germany, the Netherlands and the Czech Republic and is an important supplier for the international steel industry. Around 1,500 people work for the TSR Group. Thomas Conzendorf, a member of the board at REMONDIS, commented, "The TSR Group is heading in the right direction. Thanks to this takeover, we have been able to strengthen both the structure and the tasks of the Group and we are intending to continue their successful work together in the future."

REMONDIS is to hold a 60 percent share in the TSR Group with the Karlsruhe-based Group, CRONIMET, and the Italian steel producers, ALFA ACCIAI, each holding a 20 percent share. The Federal Cartel Office is expected to give its approval in September. This purchase means that REMONDIS has further strengthened its activities in the environmental service market.

Steel scrap

Last year, 187 million tonnes of steel were manufactured in the European Union with around 54 percent of this material being produced from steel scrap recycling. According to a study carried out by the consultancy business, McKinsey, the scrap requirements for global steel production will increase by 20 percent over the next seven years. The greatest demand for steel scrap currently comes from Turkey, China, South Korea, Spain, Italy and Germany.

(Source: Euwid)

"We are pleased that the Group has been purchased by this strong, medium-sized, family-run business and look forward to TSR continuing to develop positively."
Anton van Genuchten, a member of the TSR management

With the greatest level of independence possible, the company will now be able to offer its customers both at home and abroad full service solutions for all materials – from collecting the materials, to processing them to marketing them as raw materials. In the past, REMONDIS had only been marginally involved in the field of steel scrap and non-ferrous metal recycling through its share in the REBO company in Herne. Ludger Rethmann, board spokesman at REMONDIS, said, "The purchase of the TSR Group means we are continuing to strategically round off our company group within the field of water and environmental services."

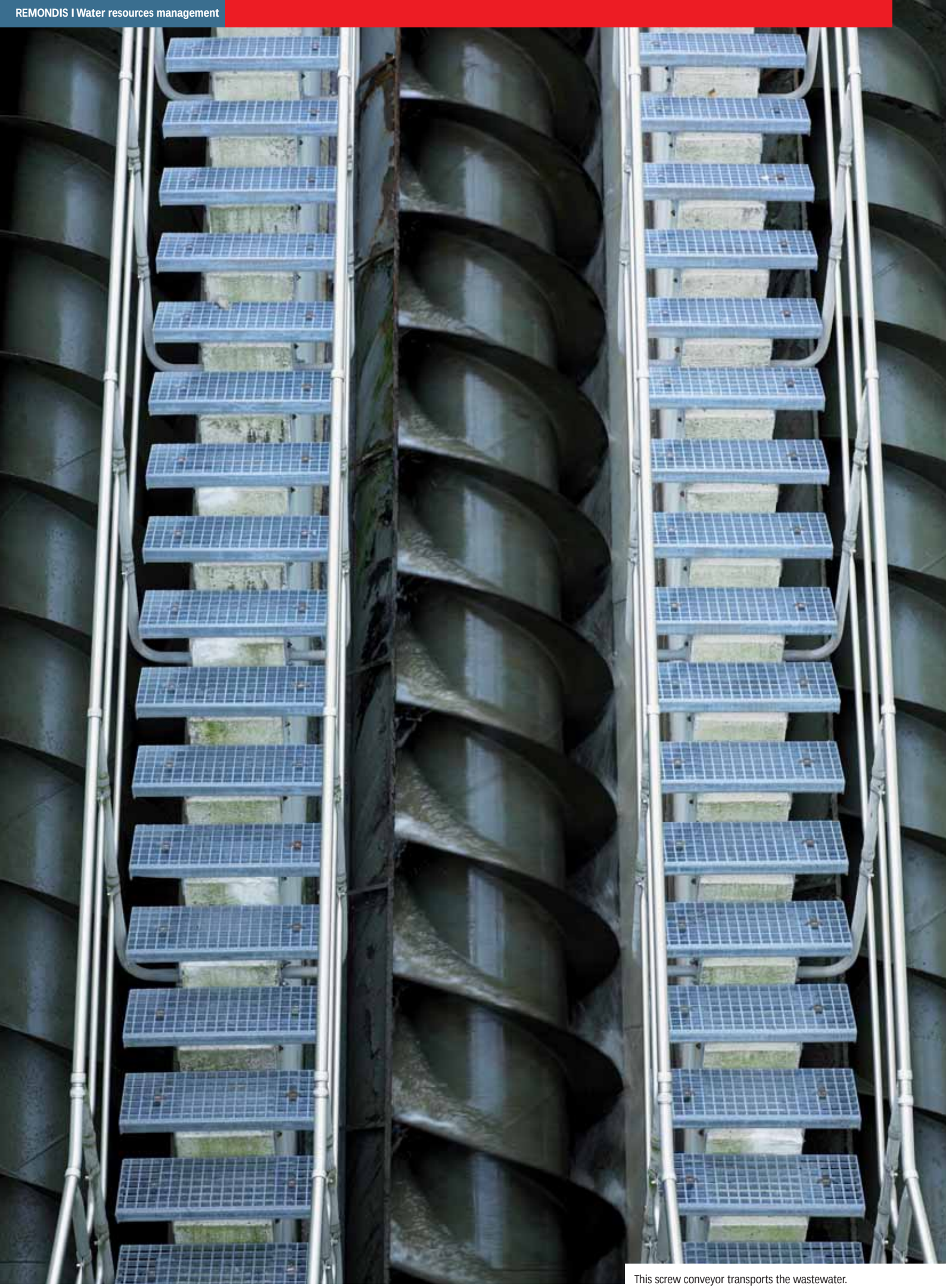
The TSR Group's main area of business is processing and marketing all kinds of steel scrap and metal scrap. The materials it processes include scrap metal from demolition work and the industry, steel chips, material from overproduction and sheet steel packaging as well as alloy metals. The processing work is carried out using state-of-the-art presses, shears and shredders. TSR customers are, for example, automobile manufacturers such as Audi, BMW and Daimler-Chrysler, as well as the Deutsche Bahn AG and the Thyssen Nordseewerke in Emden.

The TSR Group: Facts & Figures

Employees: 1,500
Turnover: 1.7 billion euros (in 2006)
Head office: Bottrop
No. of branches: 80
Market leader in: Germany, Czech Republic, Netherlands

The seller is the Dutch SHV Holding Group which took over a 100 percent share in the TSR Group six years ago. The main areas of business of the SHV is trading in and selling liquid gases and the production of raw material. The SHV Group had already bought a 60 percent share in the TSR Group from Thyssen in 1998. The TSR Group had been established before this as a result of a merger between Thyssen Sonnenberg GmbH (founded in 1890) and the iron and metal scrap division belonging to Klöckner & Co. (founded in 1906) under the umbrella of Thyssen Handelsunion. The TSR Group, therefore, originated from Germany's two leading steel producers. *(dartsch)*

"REMONDIS becomes Germany's largest steel scrap recycler" was the headline in the newspaper, Das Handelsblatt, on 3rd August.



This screw conveyor transports the wastewater.

"The most important thing about a Public Private Partnership is working together with the right partner. REMONDIS has proven to be a reliable and extremely expert partner."

Volker Doenitz, Lord Mayor (retd) and chairman of the supervisory board of Stadtwirtschaft Gotha GmbH (retd)

Wastewater treatment

Hungry organisms clean dirty water

PUBLIC PRIVATE PARTNERSHIP TREATS WASTEWATER FROM 120,000 INHABITANTS IN THE DISTRICT OF GOTHA

There's one loud gurgling noise – and then the dirty shower water disappears down the drain. And the same is true for the water from the dishwasher and the toilet as well as the water used to clean the vegetables. Each person produces around 130 litres of wastewater each day. What happens to the dirty water? How is it cleaned? A walk around the sewage treatment plant in Gotha provides an answer to these questions.

It is possible to see the whole of the Gotha sewage treatment plant from its control centre: the preliminary clarification tanks, the grit chamber, the aeration tanks and various other treatment facilities. The heart of this modern plant are the two oval tanks, each the size of a swimming pool. The brown water inside them is bubbling wildly – this is where the micro-organisms, which are there to clean the water, are provided with oxygen. However, the wastewater must first pass through several other stages before it reaches these tanks.

Both wastewater and rainwater travel through a sewage pipe network covering many kilometres to reach the sewage treatment plant. "Around 16,000 cubic metres a day when the weather is dry. This amount can be twice as high in rainy weather but the concentration of dirt is then lower," explained Ulrich Dietz, an electrical engineer, who has been working at the sewage treatment plant for two years. The first stage is to remove the solid material from the water using coarse and fine screens. The flow rate of the wastewater is then reduced in the grit chamber so that sand and stones can settle and be sucked out. Material such as oils and fats, that are lighter than water, are sucked off the surface of the water in the preliminary clarification tanks. This the end of the mechanical cleaning process. This is then followed by biological and chemical ones.

Billions of micro-organisms are found naturally in water which absorb and consume the organic contaminants which have been released. In order to be able to work properly, they need a high amount of oxygen. Before the wastewater is fed into the aeration tanks, however, the oxygen input is reduced in so-called "Bio-P tanks". "We put the organisms on a diet, so that they are even hungrier afterwards," Mr Dietz commented with a wink. After the micro-organisms have completed their work in the aeration tanks, the water must then be kept very still in the final clarification tanks, so that the sewage sludge can settle. ➡

It can seen at a glance that the water is clear again. During the ensuing chemical treatment process, suspended matter is precipitated and different materials added depending on the composition of the water – for example, to reach the pH value required by law. The quality of the water is constantly examined at automatic sample-taking points and a report of the findings is sent to the authorities responsible. The treated water is discharged into the 'Wilden Graben'. The sewage sludge is transported into two large digestion towers. There, it ferments for around one month at 34°C and is decomposed by anaerobic (not dependent on oxygen) bacteria.

REMONDIS in Gotha

In 1999, the District of Gotha partly privatised its water and wastewater associations in Apfelstädt-Ohra and Gotha as well as in the smaller municipalities. It chose REMONDIS as its private partner. This Public Private Partnership supplies approx. 120,000 inhabitants with drinking water and treats their wastewater.

Around 2,000 cubic metres of gas is produced in the digestion towers each day which is used to generate electricity using gas engines. A large amount of the energy required by the sewage treatment plant is covered by this electricity. The heat, a by-product of the process in the digestion towers, is used for heating and to produce hot water. Once the digestion process has been completed, the sludge is pressed under great pressure in textile chambers in so-called plate-and-frame filter presses to remove the water content.
"The water which is removed then does another round of the sewage treatment plant. The dried sludge is used for agricultural purposes," Mr Dietz said. In other municipalities, sewage sludge is deposited at landfills or used as a substitute for brown coal at power plants. *(dartsch)*

A bird's eye view of the Gotha sewage treatment plant in the state of Thüringen

News in brief

Expansion in the Lausitz region

At the beginning of the year, REMONDIS took over the management of the Lausitz water association (WAL). The aim was and is to continue to expand in the region between Berlin and Dresden. The first move has now been made: the City of Welzow in the state of Brandenburg, whose municipal wastewater is already treated and disposed of by REMONDIS, has commissioned its private partner to draw up an economic plan for the years up to and including 2009 as well as to calculate wastewater rates for their own wastewater business.
Furthermore, REMONDIS is cooperating with the Lausitz Higher Education Institute enabling the students there to carry out scientific work in the field of water treatment.

(eger)

Compost from sewage sludge

REMONDIS has put the Vererdungsanlage Westerzgebirge (plant converting sludge into soils) into operation in Aue Schwarzenberg which is to treat uncontaminated sewage sludge.
Approx. 3,000 tonnes are to be recycled each year. The sludge is to be used to produce a compost which can be used in landscaping and horticultural businesses, in local gardens as well as to renovate landfills. This project is a Public Private Partnership with the Westerzgebirge waterworks association.

(dartsch)

Biogas from the production of cheese

REMONDIS USES THE WASTEWATER FROM THE KÜSTENLAND MILCHUNION AS A SOURCE OF ENERGY

The Küstenland Milchunion Mecklenburg-Vorpommern GmbH has put its trust in REMONDIS' wastewater management experience. REMONDIS has taken charge of the management of the wastewater treatment facilities at the Altentreptow site and will also be extending the facilities with several different components.

The contract was signed at the beginning of the year – and the new sections of the plant will already be put into operation in September. The Küstenland Milchunion (KMU) is a subsidiary of the Humana Group, one of the leading international milk-processing companies. At its site in Altentreptow, the KMU runs a plant producing different kinds of cheese. A further production plant is currently being built on the same site by wheyco GmbH, a joint venture between the dairy giants, HUMANA and Nordmilch. This plant will refine whey and will be one of the biggest and most modern of its kind in Europe.

This extension work meant that the wastewater facilities on the site had to be expanded and a pre-treatment plant added. "A special challenge is the extreme concentration of the production wastewater and so the very high content level of organic pollutants," Dr Martin Lebek, project leader at REMONDIS Aqua, explained. The pollution level in the water is the equivalent to that of a town with more than 110,000 inhabitants. The high organic contaminant energy of the water is, at the same time, an opportunity. Mr Meierling explained, "Because of the high concentration, we can produce biogas and use it to generate energy.

"Besides contributing towards the protection of the environment, the new wastewater treatment facilities play an essential role in increasing the economic efficiency of the production process and so the competitiveness of the companies at the site. REMONDIS is the best partner to achieve this." Christian Haupt, managing director of Küstenland Milchunion

To achieve this, REMONDIS has itself invested in a combined heat and power plant. The electricity is fed into the local public mains. Besides the combined heat and power plant, the new facilities will include an anaerobic reactor and an SBR reactor to pre-treat the wastewater as well as a mixing tank and compensation reservoir.

Anaerobic reactors, in which organic pollutants are transformed into biogas, are being used more and more by companies active within the food industry when treating their wastewater. They have the advantage that the bacteria used to remove the pollutants do not require oxygen and so cost-intensive aeration equipment does not need to be set up. *(dartsch)*


BMK



Plant construction work

Great enthusiasm for biomass

REMONDIS GENERATES ELECTRICITY FROM WASTE TIMBER

A blazing fire can be seen on the monitors. Timber is being incinerated to generate energy. The staff at the control centre watch the flames very carefully. If necessary, they make changes via their computer to optimize the incineration process at the biomass-fired power plant.

The biomass-fired power plant at Lünen was put into operation during an official opening ceremony on 9th June, the first day of the FIFA World Cup. Around 300 guests travelled to Lünen to take part in the ceremony including Christa Thoben, Minister of the Economy, SMEs and Energy for the state of North Rhine-Westphalia. The new power plant, a joint venture between REMONDIS and STEAG Saar Energie, is run on waste timber and will generate more than 150 million kilowatt hours of electricity each year. That is the equivalent to the requirements of a small town and covers the electricity supply for just under 40,000 households. The electricity is fed into the public supply mains based on the 'Erneuerbare-Energien-Gesetz/EEG' (Renewable Energy Sources Act).

The biomass-fired power plant is strategically placed as it borders directly onto the REMONDIS Lippe Plant. The power plant is supplied with waste wood from the timber business there via a 180-metre-long conveyor belt. The waste timber is incinerated in the stoker firing facilities at over 850°C. The hot flue gases heat water in a tubular boiler. The steam is then used to generate electricity via a condensing turbine. With this method, old wooden palettes, bulky waste and unwanted banana boxes can be used to generate energy. The only greenhouse gases released during the incineration process are those originally absorbed and stored by the plants as they were growing. ➔

> "The biomass-fired power plant is a joint project between two strong partners and an excellent example of how we are able to set high technological standards of global significance." Christa Thoben, Minister of the Economy for NRW

Renewable energy

Last year, 62 billion kilowatt hours of electricity was generated from wind, water, biomass, photovoltaics and geothermics. This means we were able to cover more than 10 percent of total electricity consumption in Germany – and this figure continues to rise. By consistently increasing the amount of regenerative energy used, carbon dioxide in Germany was reduced by 84 million tonnes in 2005. The target of the 'Erneuerbare-Energien-Gesetz' (EEG/Renewable Energy Sources Act) is for at least 20 percent of electricity supply to come from renewable sources by 2020. (Source: German Ministry of the Environment)

Wilhelm Terhorst, managing director at the REMONDIS subsidiary, CES-TEC

The CO2-neutral incineration process at the Lünen biomass-fired power plant helps to protect the environment as, compared with the standard methods of generating energy, the amount of carbon dioxide produced – a gas which fuels climate change – is reduced by around 100,000 tonnes. A further advantage is that fossil fuels are substituted by regenerative raw materials. The state of North Rhine-Westphalia with its strong mining history still generates 97 percent of its energy requirements from fossil fuels and 3 percent from renewable sources. "Biomass is an important source of energy which shall become more and more important over the coming years." Ms Thoben, Minister of the Economy, stressed. *(dartsch)*

> "5 to 6 million tonnes of waste timber is currently being processed in German biomass-fired power plants each year." Wilhelm Terhorst

GETTING DOWN TO DETAILS

The construction of the biomass-fired power plant in Lünen was planned and supervised by the REMONDIS subsidiary, CES-TEC. REMONDIS aktuell spoke to the managing director there, Wilhelm Terhorst

REMONDIS aktuell: What is so special about the biomass-fired power plant in Lünen?

Wilhelm Terhorst: The technical standards are the same as those of a waste incineration plant. By having such high quality facilities, it is possible to reduce wear and tear which, in turn, keeps the operating and maintenance costs down on a long-term basis. In addition, the power plant is run according to the stoker-firing principle and material of up to 50 centimetres in size can be used. This reduces the preparation time and costs. As a comparison: the material used in a fluidized-bed plant must be smaller than 10 centimetres. Last but not least, the material is supplied directly via a conveyor belt from the neighbouring timber business – this minimizes delivery costs and saves energy.

REMONDIS aktuell: The biomass-fired power plant in Lünen will be receiving support in accordance with the 'Erneuerbare-Energien-Gesetz' (EEG/Renewable Energy Sources Act) until 2026. Future biomass projects based on waste timber (categories 3 and 4) will, however, no longer be promoted by the EEG. What effect will this have on the market?

Wilhelm Terhorst: No more large plants will be built within this segment. Grants have been stopped because the market is saturated and the amount of money made available has been allocated.

Award

As swift as a gazelle

Each year, one of Poland's leading business newspapers, Puls Biznesu, presents an award to companies which were the fastest to develop in the Polish market. They are given the honorary title, "Gazela Biznesu" or Business Gazelle. REMONDIS Warsaw succeeded in making third place on the list in the Woiwodschaft Mazowieckie – ahead of 1,540 other companies. *(plywaczyk)*

News in brief

ABG Rosenow – a story of success

For one year now, municipal partners have been working together with REMONDIS in the area of environmental services in the City of Rosenow in the state of Mecklenburg-Vorpommern. Together, as ABG (Abfallbehandlungsgesellschaft / Waste Treatment Association) Rosenow, they run the largest mechanical-biological treatment plant in the state processing municipal waste from around 500,000 inhabitants. Jürgen Seidel, head of the administrative body of the district of Müritz, is quoted in the press as saying, "We have set up a waste recycling network which is unique in Germany – a lively partnership between public and private partners." 37 new jobs were created. The ABG was well prepared for the law banning untreated waste from being deposited on landfills with its plant which processes 190,000 tonnes each year. *(dartsch)*

International network

REMONDIS paves the way for the circular-flow economy in Russia

The Russian Federation is showing more and more interest in systems for collecting recyclable materials as well as in modern sorting technology and recycling procedures. The world's largest country, from point of view of surface area, is planning to improve its waste management policies so that they are on par with European standards. At the moment, Russia is a long way from this goal.

Almost 90 percent of all waste is deposited in landfills – and the technical standards of most of these landfills are very low indeed. In order to be able to develop a circular-flow concept, the Governor of the region of Nischni Nowgorod, Valeri Schanzew, contacted REMONDIS. He is thinking along the lines of setting up a joint venture between the local private waste management company there and REMONDIS.

Preliminary talks have already been held – and more are to follow. Deputy Governor, Valeri Limarenko, is confident saying, "REMONDIS is one of the top five companies in the world on the market for treating household and commercial waste. Cooperation between the companies would be beneficial for both: we will become partners and the joint work will soon be seen on the streets of Nischni Nowgorod." *(dartsch)*

Not only Moscow has a Kremlin - Nischni Nowgorod has one, too

WEEE recycling

The take-back system has proven its worth

REMONDIS ELECTRORECYCLING ESTABLISHES AN INTERNATIONAL NETWORK

The ElektroG/German WEEE Act had been awaited with great anticipation. Since the end of March, this Act has ensured that, in Germany, resources are conserved during the production and recycling of electronic and electrical equipment and that fewer harmful substances are released into the atmosphere. The take-back system is highly complex – but it has proven its worth.

The small symbol of a dustbin with a line through it makes it clear to all consumers: electronic and electrical equipment may no longer be thrown away with general household rubbish but must be taken to a recycling centre. Manufacturers and traders are now responsible for ensuring the products are recycled in an environmentally friendly manner. Looking back at the first few months since the ElektroG came into force, Gerhard Jokic, managing director at REMONDIS Electrorecycling, believes the results have been positive. "The cleverly thought-out take-back system was a challenge for all environmental service companies. Within a very short period of time, several thousand containers had to be set up across the country in the 1,500 collection centres.

"Our team mastered the challenge excellently. In the meantime, everyone has got used to the system and it works very well." Gerhard Jokic, managing director at REMONDIS Electrorecycling

The waste equipment is collected at the recycling centres and separated according to the different WEEE categories. The recycling centres inform the Used Electronic Appliances Register (Elektro-Altgeräte-Register/EAR) as soon as a container is full. EAR then organizes and coordinates the collection of the container and its replacement by appointing environmental service companies to carry out the work.

The equipment is then reduced in size in dismantling centres, specialists remove the harmful substances, and the pieces of material are sorted according to fraction. This means that a wide range of metals and plastics are able to be fed back into the circular-flow economy. Mr Jokic believes that the consumers have accepted this development very well. "A great deal more waste equipment is being handed in than before. There is especially a great increase in the number of television and IT equipment." The FIFA World Cup certainly contributed towards the increase in the number of televisions being handed over: many fans had bought a new TV set before the World Cup started. Concrete figures on the individual categories of equipment will be available at the end of the year. The Zentralverband Elektrotechnik- und Elektronikindustrie (ZVEI / Central Association of the Electro-Technological and Electronics Industry) is expecting private households to produce 1.1 million tonnes of waste electrical and electronic equipment each year.

REMONDIS operates five dismantling centres in Germany with all of them currently running on a three-shift system. After putting the largest dismantling centre in Europe into operation in Lünen in March, REMONDIS is now in the process of implementing its next big project. REMONDIS is currently building a large WEEE dismantling centre in the Polish city of Łódz involving an investment sum of three million euros. Plans are for it to be put into operation this autumn. All categories of equipment, from washing machines to refrigerators, televisions and vacuum cleaners, will be processed there. Around 40 people will be working at the new recycling centre.

The EU member states are gradually passing national laws and adopting the new WEEE directives. REMONDIS Electrorecycling will continue to expand its foreign activities. "We are in the process of implementing a European network," Gerhard Jokic said. REMONDIS is already processing waste equipment from the Scandinavian countries. Negotiations are currently being held with customers in France, Greece, Hungary and Italy.

Mr Jokic believes that the start of the system in Germany was a success – although he does have some suggestions for improving it. "Televisions and IT equipment are currently being collected in the same container. This often results in the screens being damaged and so the recycling process is not as good as it could be. Improvements need to be made here." In addition to this, the wires and compressors have often been removed from the waste equipment collected from the recycling centres. Mr Jokic commented, "If compressors are removed incorrectly then CFC gases, which fuel climate change, are released into the atmosphere and they cannot be disposed of in a professional and environmentally friendly manner. This must change." *(dartsch)*

GETTING DOWN TO DETAILS

REMONDIS aktuell held an interview with Henrik Hauser, head of disposal logistics at the Fraunhofer Institute for Material Flows and Logistics in Dortmund.

REMONDIS aktuell: One of the targets of the EU's Directive on processing WEEE was to reduce the amount of WEEE and ensure it is recycled. How successful has it been?

Henrik Hauser: The European Union has succeeded in having the amount of harmful substances used in the production of electrical and electronic equipment reduced. It has ensured that the harmful substances in WEEE are no longer released untreated into the environment and it has succeeded in having more waste equipment being used a source of raw material. It has made sure that the producers are responsible for their equipment and this is a good thing. The ElektroG (WEEE Act) in Germany has led to the amount of waste equipment being handed back increasing significantly.

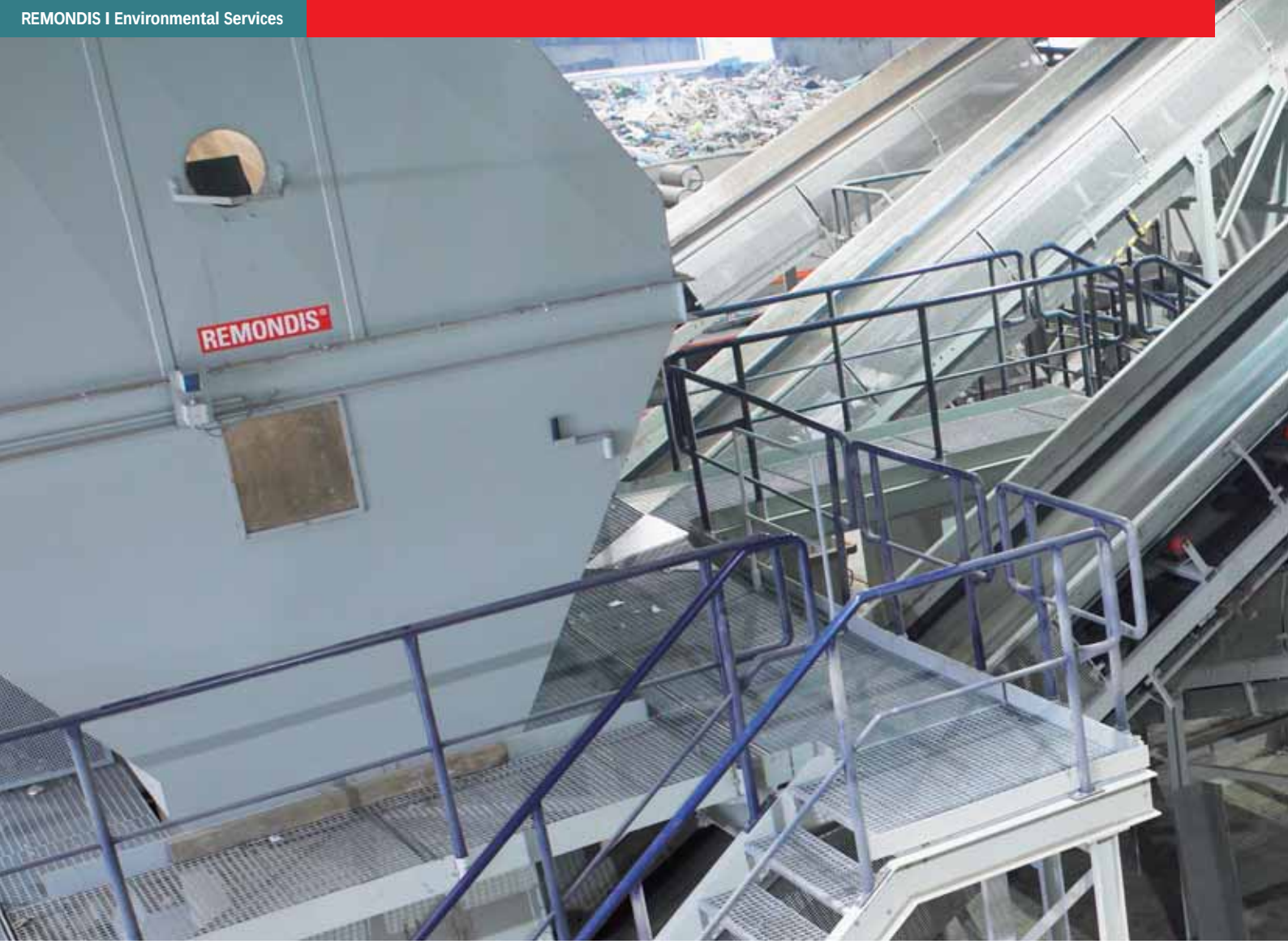
REMONDIS aktuell: The German take-back system was harshly criticized when it was introduced. What is your opinion about it?

Henrik Hauser: The system is not very flexible, is very complicated and so very cost-intensive – but it seems to be working. One thing it has revealed: the greater the number of manufacturers in the market, the more difficult it is to set up a system which suits everyone and to implement such a system.

Henrik Hauser, head of disposal logistics at the Fraunhofer Institute in Dortmund

REMONDIS aktuell: How do you believe the market will develop?

Henrik Hauser: We are heading in the right direction. The aim must be to recover as many raw materials as possible from the equipment. Manufacturers and environmental service companies must work together very closely to achieve the best possible recycling quotas. It would be useful, for example, if the number of different kinds of plastic used to produce the equipment were reduced. What is important is to ensure that a uniform standard is introduced throughout the whole of Europe to prevent cheap export solutions. There are still great differences within Europe. These must be harmonized. *This interview was held by Katja Dartsch*



Plant construction work

Safeguarding recyclable materials

REMONDIS REALIZES WASTE MANAGEMENT CONCEPT IN THE RHINE-ERFT DISTRICT

The waste management concept implemented in the Rhine-Erft district is revolutionary and sets an example for all other municipalities. It aims to conserve resources on an continual basis and to guarantee long-term waste management services for the region combined with high environmental standards. A central part of the district's concept has now been realized with REMONDIS' new waste treatment plant.

The new plant at the recycling centre belonging to the Rhine-Erft district has just recently been put into operation. 130,000 tonnes of household waste, bulky waste and commercial waste from the district will be sorted here each year. REMONDIS has invested 17 million euros in this high-tech plant. A large number of guests travelled to the site to take part in the opening ceremony. The special feature of this mechanical sorting plant: it removes high-calorific materials and recyclable materials, thus more than halving the volume of organic waste. The recyclable materials which are removed such as metals, timber, paper, cardboard and combustible materials are fed back into the circular-flow economy as secondary raw materials or are used as fuels in the cement and lime industries. As a fuel, therefore, the materials substitute fossil energy sources such as oil and gas. The remaining organic material is then dried biologically in decomposition reactors.

> “ Our project in the Rhine-Erft district is an excellent example of how a private environmental service company can work successfully together with public waste management businesses.”
>
> Norbert Rethmann, chairman of the supervisory board of RETHMANN AG & Co. KG

This results in the amount of material being further reduced. This makes a big financial difference as the residual waste must then be treated in incineration plants which is a cost-intensive process. This cost advantage contributes towards the fees in the district – which are one of the lowest in the state of North Rhine-Westphalia anyway – remaining at a citizen-friendly level. With this new plant, REMONDIS continues to expand its position in the Rhineland region. 40 people are employed at the plant. Altogether, REMONDIS has around 1,700 employees in the Rhineland. REMONDIS has already been running facilities to process bulky waste, municipal waste and commercial waste as well as a composting plant at the Rhine-Erft district’s recycling centre for some time now. *(dartsch)*

RDF sorting plant

Plant construction work

Sources of energy for the cement industry

POLAND'S FIRST RDF-SORTING PLANT FOR ALTERNATIVE FUELS

REMONDIS has put Poland's first sorting plant into operation in the City of Opole that produces refuse-derived fuels (RDF) from sorted residual waste. RDF is used to produce electricity and heat as well as in the cement industry – the demand is increasing across the whole of Europe.

German cement and lime works use RDF to cover up to 50 percent of their total fuel requirements

RDF is produced from materials such as paper, plastics and light textiles which have been collected with other materials and which are then removed from the material flow at the plant. Alternative fuel has the advantage that it can substitute fossil fuels such as oil and gas in industries and also releases fewer emissions into the atmosphere. Each year, REMONDIS' new RDF plant in Opole sorts up to 70,000 tonnes of material from the region. The combustible fractions are reduced in size directly on site and then pressed using a special kind of technology into transport containers. The fuel granulates can be used by the cement industry in their furnaces without them needing to be processed further first.

Thanks to the mechanical removal of recyclable materials, which can be used to produce RDF fuels, the amount of material which needs to be taken to the landfill is reduced by approx. 40 percent. This means less damage to the environment as fewer landfill gases are released into the atmosphere such as methane which is one of the most damaging gases resulting in climate change. This plant is helping Poland in its attempt to fulfil the recycling quotas imposed by the European Union. *(plywaczyk)*

REMONDIS is investing in European sorting technology in Australia

Australia

Australia demonstrates environmental awareness

REMONDIS OPENS TWO NEW LOCATIONS IN QUEENSLAND

The relatively low landfill costs in Australia have been hindering the development of new recycling technology on the continent and the movement of material flows from landfills to treatment plants. Politicians have recognized this fact and are looking to promote the trend towards conserving resources. In Sydney, for example, an additional fee is being charged for depositing waste in landfills.

The Ministry of the Environment has increased the taxes for depositing waste in landfills by around 34 percent in Sydney and the surrounding areas. This should act as an incentive for citizens, municipalities and businesses to conserve resources and feed raw materials back into the circular-flow economy. Approximately half of the additional income – amounting to about 463 million euros over the next five years – is to be invested in environmental programmes. In Australia, REMONDIS is showing where the future lies when it comes to recycling plants. The mechanical-biological processing plant in Port Macquarie, which was built together with the local district authorities, is based on the tried and tested sorting technology from Europe which, for the most part, had not been heard of in the area. REMONDIS is expanding in Australia. New sites are to be opened soon in Queensland in the City of Brisbane and in the Gold Coast region.

(beckerhoff)

Services for the industry

Growth across the whole of Europe

THE BUCHEN GROUP EXPANDS

When it comes to industrial services, global players like Shell, Dow and Esso look for service providers who can follow them across international borders. It is precisely for this reason that the Buchen Group, which belongs to REMONDIS, has been pushing forward its international activities since 2005.

The Buchen Group has been expanding within Europe with an impressive show of determination. In the spring, the Group took over WATCO Industrial Cleaning, the second-largest company on the Belgian industrial service market, which has seven branches and around 260 employees. In addition to this, the company group has founded several companies abroad over the last few months – in Romania, Estonia, France, the Netherlands and Switzerland.

The petrochemical sector is enjoying an upswing in Romania. The new company, which Buchen set up in Romania, will also serve the markets in Bulgaria, the Ukraine and Turkey in the future. Its firm in Estonia is to cover the whole of the Baltic region. Estonia is a central transfer point for oil products between Russia and Europe and has large harbours, tank depots and shipyards – the ideal location for Buchen Industrial Services. Buchen has also recently set up a new business in Switzerland. "We take on large renovation and clean-up projects, for example, removing discarded hazardous waste and dismantling industrial plants," Dieter Bader, managing director, explained. However, industrial cleaning services should also play a more important role in Switzerland in the future. Buchen's main customer in the Netherlands is Dow Chemical. The Buchen Group also serves chemical factories, refineries and petrochemical businesses in the whole of the Benelux region, also in the conurbations Rotterdam and Antwerp. Since the beginning of the year, the Buchen Group has had a company in France in the City of Drusenheim. Buchen Services has already successfully completed several projects in Alsace-Lorraine.

Spreading like wildfire – and there's no end in sight. Companies are on the point of being founded in Spain and Russia. And, of course, the company group continues to take on large projects outside Europe. *(dartsch)*

"We also carry out major projects for our globally active customers, for example, in the USA, Russia, China, Norway and Morocco, without actually having our own branch in the country."

Gerhard Röttgen, managing director in the Buchen Group

The Buchen Group is active Europe-wide

News in brief

Service providers in Switzerland

REMONDIS TAKES OVER URS SIGRIST AG

REMONDIS has taken over Urs Sigrist AG in Switzerland. The company, which is located in the canton of Schaffhausen, has a large number of customers including many different municipalities as well as industrial and commercial businesses. Urs Sigrist has an annual turnover of around 1.7 million euros. The company is responsible for collecting glass and tins in practically every district in the canton and also has contracts for collecting and processing traditional commercial waste such as plastics, films, timber and metal. REMONDIS has also taken over the whole of the workforce. REMONDIS' first branch in Switzerland was founded twelve years ago. *(dartsch)*

Expansion

The first successful results for EKO-Punkt

TARGET: TO BE APPROVED THROUGHOUT THE WHOLE OF GERMANY

REMONDIS is in the process of setting up a take-back system for packaging materials covering the whole of Germany together with EKO-Punkt GmbH, a company it established just a few months ago. EKO-Punkt has already received its first official approval as a Dual System business: in Hamburg. Other applications are currently being processed in many other German states.

The target is for EKO-Punkt to have received official approval from all German states by the end of 2007. EKO-PUNKT will use the systems which have already been established to collect used sales packaging. In contrast to the other Dual System service providers on the German market, however, the sorting, processing and recycling of the material will be carried out using its own resources. EKO-Punkt is already active in other countries taking back and processing transport and sales packaging. Each year, EKO-Punkt takes back around 100,000 tonnes of packaging material Europe-wide. *(dartsch)*

EKO-PUNKT

The ‘Gemeinschafts-Müllverbrennungsanlage’ (waste incineration plant) in Oberhausen

The incineration process is run from the control centre

Plant construction work

Open Day at the furnace

INCINERATION PLANT IN OBERHAUSEN PUTS NEW BOILER INTO OPERATION

The 'Gemeinschafts-Müllverbrennungsanlage' (GMVA / PPP waste incineration plant) treats municipal waste from several regions including the City of Oberhausen and the City of Duisburg in an environmentally friendly manner. The plant has been extended and the new facilities can be viewed by the public during an Open Day which is being held in September.

The technical concept of the GMVA in Oberhausen aims to be consistently efficient, safe and environmentally acceptable. The plant lies way below the strict emission limits stipulated in the 17th BImSchV (Bundesimissionsschutzverordnung / Ordinance of the Federal Emissions Control Act) and the environmental protection authorities responsible have access to the data 24 hours a day. The energy released during the incineration process is used to generate electricity and utility-supplied heat – thus enabling primary raw materials such as coal and gas to be substituted. Citizens living close by to the GMVA are being given an opportunity to see how the GMVA works on 24th September – during an Open Day. The reason behind this event is the replacement of a boiler and a turbine. Once they have been put into operation, the GMVA will have four incineration lines at its disposal.

"We believe it is very important to have support from the population," Ingo Schellenberger, managing director, said. "Transparency means an increase in confidence in the GMVA." Those interested can visit the plant during the open day and observe how a crane gripper removes materials from a bunker and lays them on the combustion grate. An observation window allows them to watch the material being incinerated in the furnace at a temperature of up to 1,100°C and they can see how effectively the flue gas is cleaned. A visit to the highly technical control centre will also be possible which is where the incineration process is actually run. The GMVA is a jointly run project, a Public Private Partnership, between REMONDIS and the Cities of Duisburg and Oberhausen. The shareholders have invested around 63 million euros in the new incineration line with its boiler, turbine, auxiliary condenser and new steam parameters.

GMVA Oberhausen

No. of incineration lines	4
Energy input	270 megawatts
Capacity per year	630,000-680,000 tonnes
Furnace temperature	850 to 1,100°C
Steam generation capacity	305 tonnes per hour

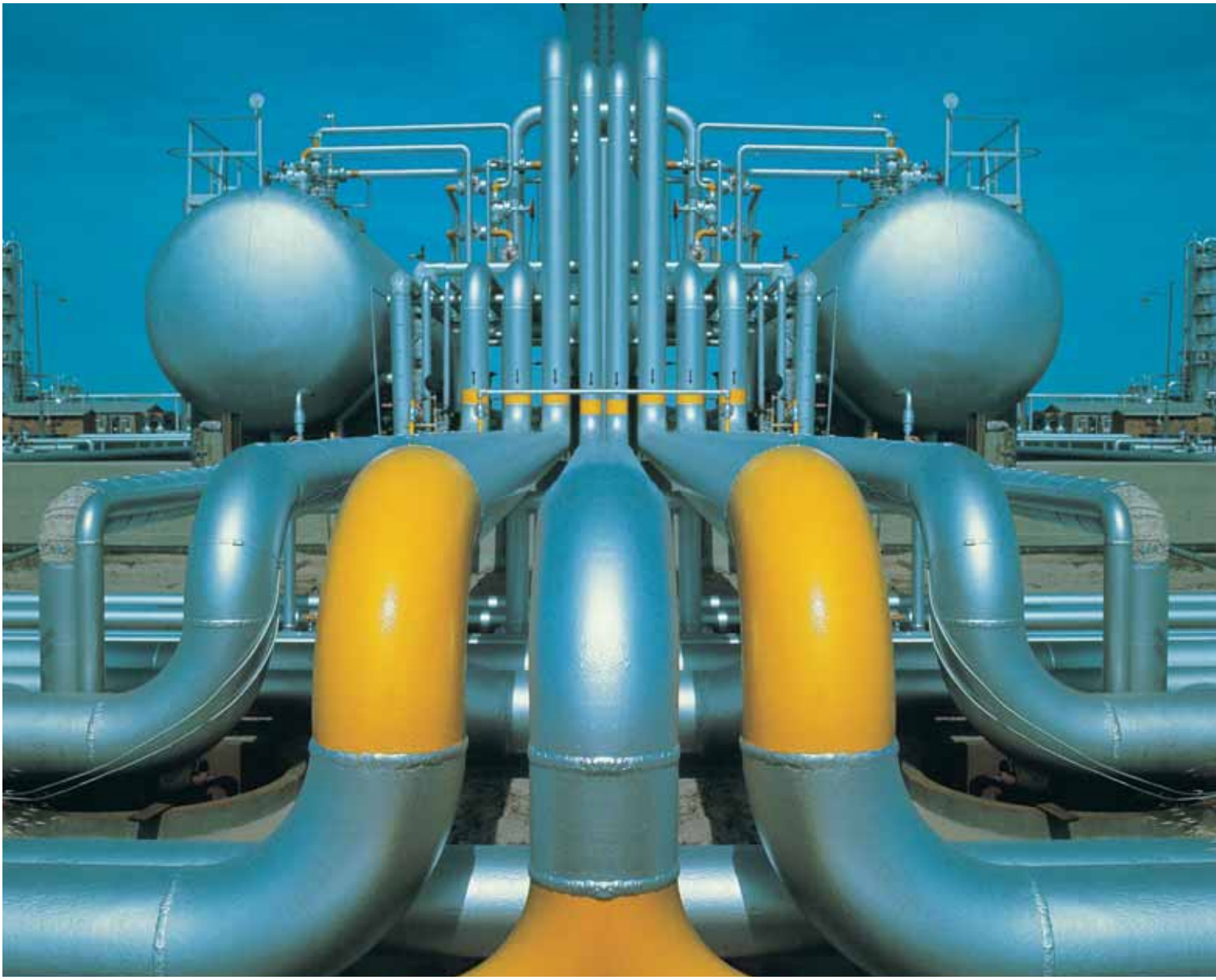
Services for the industry

Oil – Cleanly Refined

REMONDIS AND BUCHEN CLEAN A REFINERY

The BP Lingen oil refinery in Emsland has set up a container village consisting of offices, recreation rooms, additional shower facilities and a catering tent – space has had to be found for more than 2,500 external workers. For the first time in its history, the refinery is carrying out a total audit. REMONDIS Industrie Service and the Buchen Group, a company belonging to REMONDIS, are both involved in this major project.

The audit began in August. The plant was shut down completely and is being inspected by TÜV officials (external people carrying out safety tests). Maintenance work is being carried out on around 50 reactors, 50 towers, 20 furnaces, 100 air coolers and 650 heat exchangers and is due to be completed by October. This general shut-down took more than two years to prepare and the costs for the audit will amount to 50 million euros. The Buchen Group, a company belonging to REMONDIS, is involved in the cleaning of the refinery with 200 employees from all over Germany. The work is being coordinated by Carsten Bosserhoff and Andreas Heskamp. REMONDIS Industrie Service in Bramsche is in charge of dealing with oily products, spray cans, dirty packaging and various kinds of chemicals used during the audit. The cleaned and maintained refinery is due to start up again in October and produce fuels, heating oil and chemical primary products from crude oil – four million tonnes a year. *(multhaupt)*



News in brief

Increased presence in the Rhineland

NRW MINISTER OF INNOVATIONS WELCOMES PRIVATISATION

REMONDIS has expanded its activities in the Rhineland region and has purchased shares in the largest environmental service companies within the Düsseldorf area. Awista GmbH, in which REMONDIS has held a 40 percent share for a few weeks now, provides a large number of municipal services from road-cleaning work to emptying organic waste dustbins. REMONDIS has also purchased a 51 percent share in ATG & Rosendahl GmbH, a company specializing in commercial customers. ATG & Rosendahl's services range from setting up containers to sorting and marketing recyclable materials. Together, the companies employ around 1,300 people and with their 500 vehicles have built up a competent logistics system. Around 1 million tonnes of material flows are processed from the state capital city Düsseldorf as well as from Velbert, Wuppertal, Remscheid, Solingen, Langenfeld and the surrounding regions. The remaining Awista and ATG & Rosendahl shares are owned by the Stadtwerke Düsseldorf (utility company) with whom REMONDIS has signed a cooperation agreement. Ludger Rethmann, board spokesman at REMONDIS, underlined the fact that the cooperation means an increase in competitive strength within the region and safeguards jobs. During an interview with the press, Professor Andreas Pinkwart, Minister of Innovations for the state of North Rhine-Westphalia, praised the privatisation of environmental services in Düsseldorf as being exemplary.

(dartsch)

News in brief

SAVA becomes a 100% subsidiary of REMONDIS

52,000 TONNES OF HAZARDOUS WASTE TREATED SAFELY

SAVA GmbH has been a 100% subsidiary of REMONDIS since May when REMONDIS Industrie Service GmbH bought up the remaining shares in the company from E.ON. "The aim of this purchase is to consistently expand the value chain in the field of hazardous waste," explained Thomas Breitkopf, board member at REMONDIS. SAVA Sonderabfallverbrennungsanlagen GmbH runs one of Europe's most modern plants for treating hazardous waste in Brunsbüttel. Last year, 52,000 tonnes of material underwent thermal treatment. *(dartsch)*

News in brief

Kati Wilhelm is a CASUList

Kati Wilhelm, the successful biathlete with bright red hair, dunks a large roller brush into a bucket and begins to plaster a wall: an advertising spot for the company Knauf. The product, EASY-Putz (EASY plaster) which Kati Wilhelm is presenting, is available in many DIY stores and produced using the white pigment CASUL, a REMONDIS product. REMONDIS has been the first company in the world to produce the synthetic mineral – known by experts as ettringit – from sodium aluminate (alumin) and gypsum.

The first industrial CASUL production plant was put into operation at the Lippe Plant in Lünen one year ago. Many well-known paper factories have in the meantime become customers.

Kati Wilhelm,
Olympic gold medalist

The new trainees and apprentices from the Ruhr region were welcomed to the company in Lünen

Training

Starting professional life

916 TRAINEES AND APPRENTICES AT RHENUS, SARIA AND REMONDIS

School life is over, working life is about to begin. 283 young men and women have started a traineeship or an apprenticeship at the company group this summer.

Over the last two years, the number of trainees and apprentices at SARIA, Rhenus and REMONDIS has increased by 43 percent

Young boys generally want to become an astronaut, a professional football player or a fireman. Small girls dream of becoming a superstar – or at the very least a vet. It is not possible to become a superstar at REMONDIS but the company does provide traineeship and apprenticeship courses for 37 different careers (see box on next page) "Very few companies provide such a wide range of training courses," Andreas Oellerich, head of human resources at REMONDIS, commented.

Thousands of applications were sent to the personnel departments at Rhenus, SARIA and REMONDIS last year. 283 young men and women have been successful and have qualified for a training position within the company group. This means that the total number of trainees and apprentices in the business has increased to 916. Mr Oellerich said, "The job market is very difficult for young people in Germany. We wish to fulfil our social responsibilities and give them an easier start to their working life by providing them with qualified training in an internationally active company." The company group's own need for well trained and motivated staff is great so that a large number of the trainees and apprentices at REMONDIS are taken on at the end of their course. The new trainees and apprentices from the region were given a warm welcome by the personnel management on 1st August at the main administration building in Lünen. *(dartsch)*

"At REMONDIS, I can put into practice the knowledge I gained at school. I think it is great that REMONDIS does so much for the environment."
Dawid Piontek (21), training to become an industrial clerk

"I applied to REMONDIS because it is an internationally active company. The training is very varied and the chances of being taken on and being promoted are higher than in a smaller business."
Ulrike Graeber (21), studying economics

"I was born in Poland and speak fluent Polish. I felt it was important, therefore, to train at a company which is also active in Eastern Europe. At REMONDIS, I will be able to use my languages."
Magdalena Serzisko (21), training to become an industrial clerk

"I was already very interested in chemistry when I was at school, so the training course in the laboratory is perfect for me. We carry out environmental and material analyses. Once I've completed the course, I will probably go to university."
Andreas Blaser (21), training to become a chemical laboratory assistant

"At REMONDIS, I will have the opportunity to use the computer knowledge, which I have picked up during my free time, during my training course and will be able to learn more about this as well as about other areas."
Jeyachandran Rasasingam (23), training to become an office administrator

"Training to become a gardener is not easy. For example, you have to learn the names of all the different plants. You shouldn't worry about getting dirty, either. I think the training course is really great as I like working outside and enjoy teamwork."
Mirco Wisse (18) training to become a gardener, specializing in horticulture and landscaping work

APPRENTICESHIP & TRAINEESHIP COURSES AT REMONDIS

Chemical technology
Chemical laboratory technician
Chemical technician

Motor technology
Vehicle mechatronics engineer for commercial vehicle engineering

Environmental technology
Specialist for environmental services and waste management
Specialist for pipe, sewage and industrial services
Specialist for wastewater technology

Commerce
Industrial clerk
Graduate in business studies (VWA or BA)
Office administrator
Office communications clerk
Management assistant in traffic services
Freight forwarding and logistics services clerk
Management assistant in wholesale and foreign trade
Management assistant for haulage and logistics services

IT
IT specialist
Computer science graduate
Informatics clerk
IT systems clerk

Industrial electronics
Industrial electronics engineer
Electronics technician for energy and building services engineering
Electronics technician for automation technology
Electrician

Industrial metal engineering
Industrial mechanic specializing in engineering operations and maintenance
Construction mechanic specializing in equipment technology
Mechatronics specialist
Machine operator

Craftsmanship and logistics
Road builder
Professional truck driver
Gardener
Packing specialist
Management assistant in warehousing and logistics
Logistics assistant
Sailor (inland waterways traffic)
Surveyor
Road maintenance specialist
Plasterer
Specialist for water resources management

Employee portrait

Inventor writes about water and Wagner

HA-ZWEI-O (H-TWO-O) TRAVELS AROUND THE WORLD

Water knows no bounds as water molecules are everywhere – in fog and steam, in textiles, hair, plants. Josef Lehmkuhl, chemist and inventor at REMONDIS, has written a book about the adventures of a water molecule.

Josef Lehmkuhl in front of the CASUL plant

The journey of a water molecule called Ha-Zwei-O starts at the beginning of time with the so-called "big bang". It then travels through the ancient world, visits the Renaissance artists, experiences the French Revolution and ends up somewhere during the present time. Sometimes this tiny molecule is part of a piece of paper, then it evaporates onto one of the well-known paintings in the Louvre or rushes along the Rhine together with millions and millions of other water molecules. "Water is the most fascinating molecule imaginable," the author enthuses. His book is a journey through the ages during which the reader meets artists, philosophers and visionaries from the past. For example, Leonardo da Vinci, who is, Mr Lehmkuhl says, the founder of the first waste collection system. And the molecule even lands up in the washing machine belonging to Norbert Rethmann, chairman of the supervisory board of RETHMANN AG & Co. KG – during one of his first attempts to clean and recycle light packaging. "The book is an introduction to chemistry and, at the same time, to nature's life cycles," Mr Lehmkuhl explained. He knows this area extremely well as he has been working within the water and environmental service sectors for 30 years now. He helped to build up the water division at REMONDIS and the REMONDIS product, alumin, was developed from one of Josef Lehmkuhl's patents. Alumin is based on sodium aluminate which accumulates during the recycling of aluminium and is used for water treatment. One of Mr Lehmkuhl's latest projects as head of development at the Lippe Plant in Lünen was the industrial production of CASUL, a white pigment used in the paper and paint industries. Last year, REMONDIS launched this product onto the market (see p. 33).

> "Everything is matter. Everything moves in an eternal circle. Supposed residual waste is a raw material for something new."
> Josef Lehmkuhl, inventor and author

Writing books has become one of Mr Lehmkuhl's favourite hobbies. Before writing the water book, he had written a book about Wagner's The Ring of the Nibelung – from the point of view of a chemist, of course, as the "Ring" also has to do with chemistry and life cycles. And does he already have an idea for a third book? Mr Lehmkuhl did not wish to tie himself down here but hinted, "When you write a book and you are approaching the end then you do start thinking about the next one." *(dartsch)*

"Ha-Zwei-O und seine phantastische Reise mit Dichtern und Denkern in die Welt der Chemie" (H-Two-O and his fantastic journey with poets and philosophers in the world of chemistry)
ISBN 3-8260-3481-3

"…kennst du genau den Ring? Eine Reise zu Richard Wagners Der Ring des Nibelungen." ("...how well do you know the ring? A journey to Richard Wagner's The Ring of the Nibelung.")
ISBN 3-8260-3347-7

Both books are available from the Königshausen & Neumann publishers, Würzburg Tel: (0931) 7 84 07 01

Working on the island of Sylt

THE REMONDIS BRANCH IN WESTERLAND

When William Martens looks out of the window of his office, he sees seagulls circling over the dunes. Mr Martens works where other people go on holiday: on the island of Sylt.

The branch manager and his approx. 50 members of staff have the environmental services on this North Friesian island well under control from their administration building in Westerland. Each year, they collect 30,000 tonnes of residual waste – from household waste to construction waste to commercial waste. The material is sorted and then transported to the mainland via the motorail train. The only exception is organic waste which is composted directly on the island.

What is so special about the work on Sylt? "We have to be especially flexible here," Mr Martens explained. For, the number of inhabitants fluctuates greatly. Around 28,000 people live on Sylt all year round. During the main holiday season, however, there are up to 150,000 people on the island. This requires a high level of organizational and logistical skills. Sylt is a well-known holiday destination for the rich and beautiful. The REMONDIS employees often meet a famous person during their work in Westerland or Kampen. "We treat them in a friendly and obliging manner as we do all our customers. We do not treat them any differently," Mr Martens said. It is not rare to see a Jaguar or a Rolls-Royce drive up to the recycling centre.

There is, by the way, one kind of material which is found in unusually high amounts on the island: reed. "The roofs are re-thatched here very often as the houses often change hands and everyone wants their home to look particularly nice," Mr Martens continued. The result is 600 tonnes of waste reed each year. REMONDIS presses it into bales and transports it to the mainland. When there is an emergency, the REMONDIS employees always help out, too. For example when hurricane Anatol hit the island and thousands of trees were uprooted. Or when the freighter, Pallas, was damaged close to the island and an oil slick reached the coastline. "We always turn up at such occasions and help out where we can." *(dartsch)*

With a surface area of just under 100km², Sylt is the largest of the North Friesian islands. The 40 kilometres of fine sandy beaches lure holidaymakers from near and far.

People met and got into conversation with each other at the REMONDIS IFAT stand including the Bavarian state minister and CSU district chairman, Dr Werner Schnappauf (4th from right), and Egbert Tölle, REMONDIS board member (3rd from right)

"The introduction of new environmental laws in China has forced the economy and authorities to react and start new projects. It has become clear during the IFAT China that there is a great need for both knowledge and technology. The trade fair was an excellent opportunity to increase access to the Chinese environmental market." Volker von Ludowig, member of the management at Ludowig GmbH

Trade Fair

International network

REMONDIS PRESENTS ITS COMPANY AT THE LARGEST ENVIRONMENTAL TRADE FAIR

REMONDIS is expanding internationally; growth markets are especially Eastern Europe and Asia. REMONDIS succeeded in further extending its international network at the IFAT in China.

The IFAT China took place in Shanghai for the second time

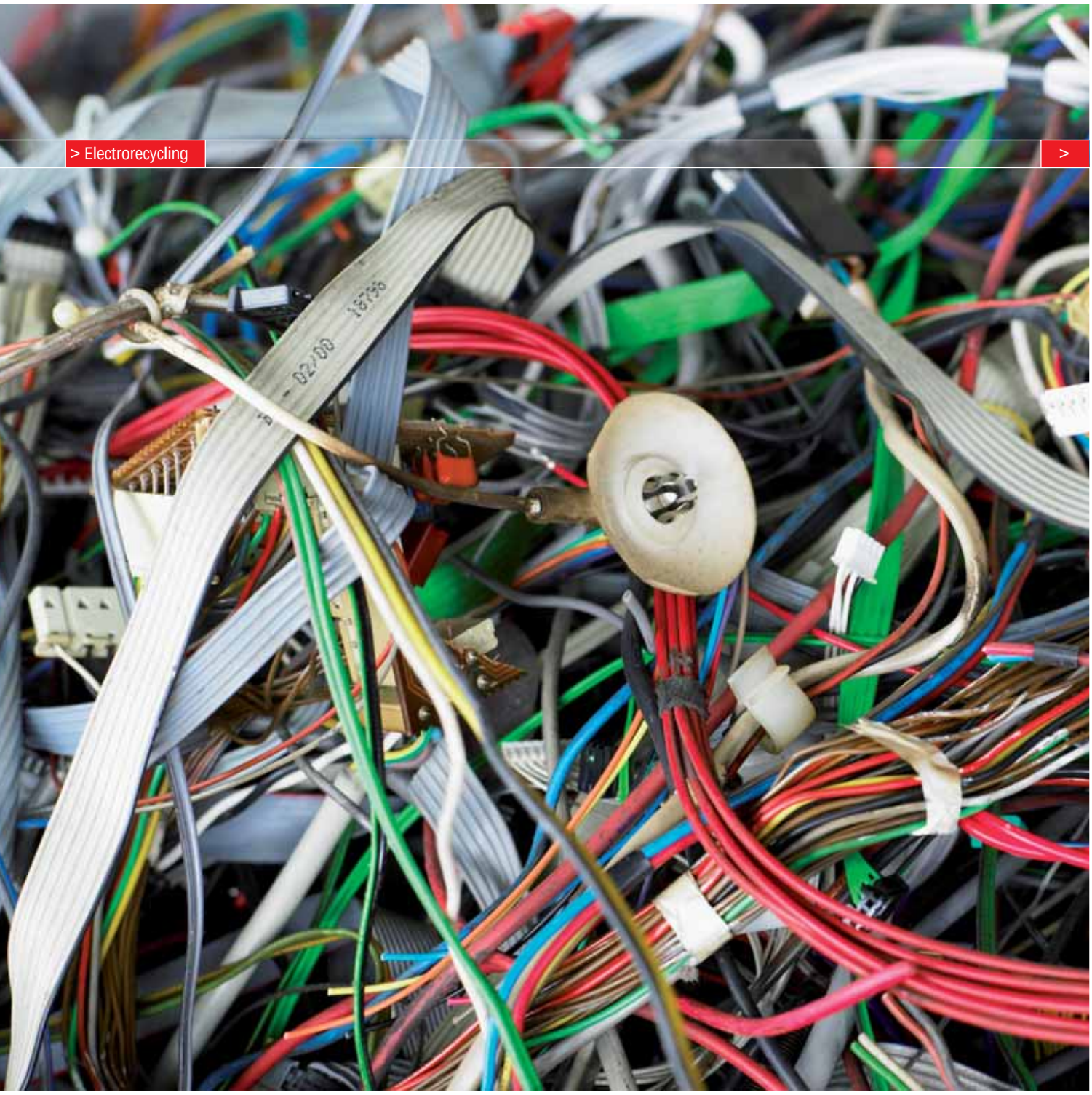
285 exhibitors from 26 countries presented their companies at the IFAT in Shanghai. Just under half of the exhibitors were from Asia including China, India, Japan, Korea and Taiwan. REMONDIS is already active within the area of water and environmental services in several Asian countries and it is looking to further extend its commitments there.

10,000 visitors from 66 countries travelled to the environmental trade fair which was held at the state-of-the-art Shanghai New International Expo Centre (SNIEC). This means that the IFAT – after its successful premiere two years ago – has increased in size considerably and strengthened its position as being the nerve centre of the environmental branch in Asia. Further international fairs, which REMONDIS will be travelling to this year to present its services and products, include the Public Infrastructure in Hanover, the well-known specialist

trade fair for waste management and environmental technology, ENTSORGA/ENTECO in Cologne, the largest Eastern European environmental fair, POLEKO in Posen, the French environmental fair, Pollutec in Lyon, as well as Italy's main environmental exhibition, Ecomondo, in Rimini. *(dartsch)*

> Impressions

REMONDIS®



WEEE as a source of raw material

Many million tonnes of WEEE are produced each year across Europe. Such waste equipment contains valuable raw materials such as copper, platinum, aluminium and steel. REMONDIS Electrorecycling removes the harmful substances from this equipment using environmentally compatible methods and feeds the raw materials back into the economic cycle. REMONDIS Electrorecycling has many years' experience of setting up take-back systems both in Germany and abroad. All categories of waste equipment are collected throughout Europe, dismantled in dismantling centres and then processed. REMONDIS operates Europe's most modern processing and dismantling centres for cooling appliances, televisions, screens, small pieces of household equipment as well as IT and consumer electronics.

Would you like to learn more about our services? Then please contact us. Our telephone number and e-mail address are listed below.

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