

## CENTRAL AND EASTERN EUROPE: THE FUTURE OF THE WATER AND ENVIRONMENTAL SERVICE ECONOMY

REMONDIS AT THE  
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Fair Centre  
13–17 September



Shortage of raw materials  
High Tech is impossible without waste

Expansion  
New tasks in Eastern Europe

Poland  
Learning from mistakes made in Germany

Environmental services  
Who does what with German waste?

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Raw Materials for Future Technologies – this is the title of a study carried out on behalf of the Federal Ministry of Economics. This study involved scientists looking at to what extent high tech alters the demand for raw materials and quickens the consumption of natural resources. The results are alarming. **Page 4**



## NEWS

REMONDIS already holds the position of market leader within the water and environmental service sectors in neighbouring Eastern countries such as Poland and Hungary. More and more local councils in Russia, the Ukraine and Belarus are now looking to adapt their infrastructures to meet Western European standards. REMONDIS is a sought-after partner to help them with this mammoth task. **Page 10**



## WATER RESOURCES MANAGEMENT

Treating wastewater and at the same time generating energy – the Valensina Group has now decided to make use of this double advantage, too: this producer of fruit juice drinks has signed a contract with REMONDIS Aqua commissioning them with the task of building and operating an anaerobic wastewater pre-treatment plant. This state-of-the-art facility generates biogas from the wastewater which is then fed back as energy into the production processes. A great contribution towards achieving higher levels of sustainability. **Page 18**

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## EDITORIAL

### Dear Readers!

Who would have thought that the economy would recover so quickly? Yesterday, the media headlines were still all about the economic downturn and the problems of the financial markets and then suddenly the Ifo Business Climate Index shot up to its highest level since 1992. Unemployment figures are dropping across the country and the rapid increase in consumption and demand for exports are helping industrial production to recover far more rapidly than anyone could have dared to hope. In light of this economic revival, a problem is once again reappearing which the water and environmental service branch is, in particular, able to help to solve: the global shortage of raw materials.

Branch experts never really lost sight of this megatrend even when the economy was at its lowest point. For, the figures speak for themselves. One example is copper: even according to the most optimistic forecasts, the natural reserves of this metal – without which no electrical device can function – will have run out in 50 years. Even today, it is becoming more and more difficult to mine copper ore and this is having a dramatic impact on the environment. 500 tonnes of rubble must be moved and huge amounts of energy used to gain one tonne of high-purity copper. Clearly, the better method is to recycle copper from waste electronic equipment and other kinds of waste. Here, one tonne of high-purity copper can be gained from just approx. five tonnes of shredded printed circuit boards from computers and other electronic devices and just a fraction of the energy is needed. Another example, precious metals: around 26 milligrams of gold is found in every mobile phone. Each year, approximately 1.3 billion mobile phones are produced around the world but only just over 10 percent of them are recycled. More than 20 tonnes of pure gold ends up in the bin. In the future, we will not be able to afford losing such valuable raw materials – losing them for ever by incinerating them or dumping them in landfills. It is essential that priority is put on materials recycling.

For Germany, this means, above all, preventing the further expansion of incineration capacities. Prices for incinerating waste are being put under so much pressure as a result of



Max Köttgen,  
REMONDIS Board Member

this proliferation of thermal plants that it would appear in many cases to be cheaper to incinerate material rather than recycle it. This is, therefore, achieving the exact opposite of what the EU Commission intended when it set out its new Waste Directive. Poland could still avoid making this mistake if the country makes the right move now. The country currently has only one waste incineration plant, which is located in Warsaw, but it is planning to build a further 10 to 12 plants with a total capacity of 3 million tonnes with the help of comprehensive EU subsidies. Only 10 million tonnes of municipal waste are generated in Poland each year and so it is clear that there will not be sufficient material for the new plants if the EU requirements to carry out as much material recycling as possible are followed. Poland can still avoid making such a bad investment if it sets the right course for the future now.

Here in Germany, the water and environmental service branch is eagerly awaiting the draft legislation for the new Law on Life-Cycle Management. The expectations are high for it will also tackle the issue of further developing the 'dual system' in Germany for collecting and recycling sales packaging. Will a recycling bin be introduced which will not only be for sales packaging but also for non-packaging of similar materials and small electronic appliances? Will such a bin replace the 'yellow bins' currently being used or simply supplement them? And who will have control over the system: the public or the private sector? We firmly believe that local government should continue to supervise and take responsibility for waste management in their areas. Today, though, the private sector with its high levels of expertise and 160,000 employees is, for the most part, already carrying out the tasks of collecting, sorting and recycling waste. And this should continue to be the case in the future, too.

I hope you enjoy reading this edition of the REMONDIS aktuell.

Yours  
Max Köttgen



## No future for new technologies?

TECHNOLOGICAL ADVANCES ARE BEING JEOPARDIZED BY THE SHORTAGE OF RAW MATERIALS

Raw Materials for Future Technologies – this is the title of a study carried out on behalf of the Federal Ministry of Economics. This study involved scientists looking at to what extent high tech alters the demand for raw materials and quickens the consumption of natural resources. The results are alarming.

The study clearly shows that technological developments are having a serious impact on the demand for raw materials: many basic materials will be needed in much greater amounts in the future.

### Shortages limit use

The situation is being aggravated by the fact that, in many cases, several kinds of future technologies depend on the same raw materials. However, it is precisely the high-tech metals which are already considered to be rare today and, at present, cannot be substituted by other materials. If, as a result of technological progress, demand for these materials increases, then natural reserves will be exhausted even faster than originally expected. This effectively means: new technologies will be developed but they will not be able to be used to any great extent because they will use up the raw materials available too quickly.

### The situation is going from bad to worse

Those people who believe a solution to this problem does not need to be found until the reserves have actually run out are ignoring the realities of the situation. It is high time that we act now for this imminent shortage is already casting its shadow: the raw material markets are already challenging – including supply shortages and volatile prices. In view of their declining stocks, more and more countries supplying such materials are considering charging export duties and lowering export quotas. This will mean considerable risks for global supply.

### Recovery for the sustainable industrial society

The following guest article written by Professor Martin Faulstich also looks at the subject of the shortage of raw materials. He believes a comprehensive recycling sector is an essential element needed to create our sustainable industrial society. Recovering valuable raw materials and returning them to the production cycle will prove to be a reliable way to ensure future supplies.

Guest article

## Elements of a sustainable industrial society

PROF. MARTIN FAULSTICH

The foundations of our society are the manufacturing industry. Our task for the coming century will be to transform our current 'resource-hungry' industrial society into a sustainable industrial society that handles our resources in a just way that goes beyond country borders and generations. We have, in principle, been aware of the elements needed to achieve this aim – sufficiency, efficiency and substitution – for a long time now.

The question of sufficiency, i.e. with what material outlay we wish to achieve happiness and satisfaction, has certainly been suppressed for too long. The renewed discussion, however, about the limits to growth shows that this subject is back on the agenda.

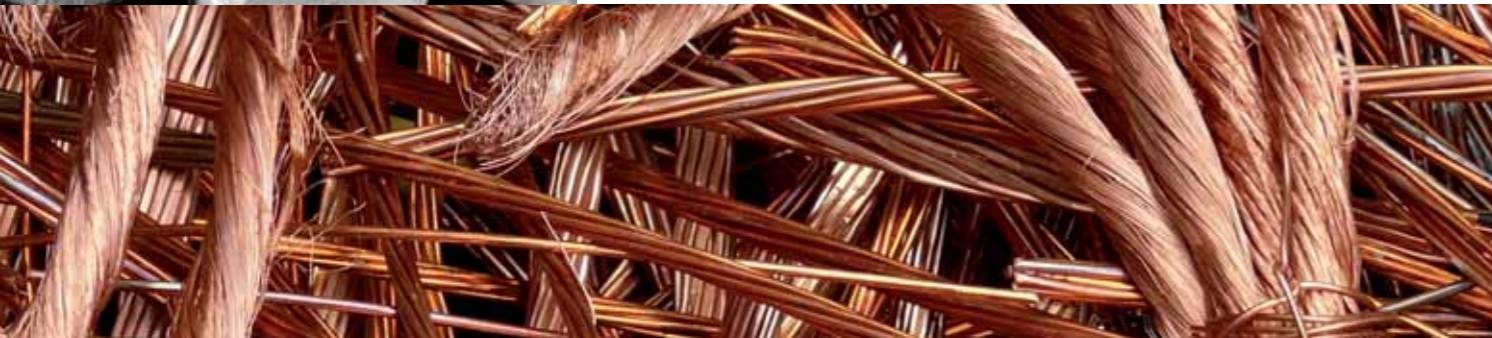
And what about efficiency? All the increases in efficiency that we have achieved in our power plants, homes and cars over the last few decades thanks to the certainly impressive work carried out by engineers have already been nullified through increased consumption. Considerably greater efforts must, without a doubt, be made to further increase efficiency.

Which leaves the element of substitution. The German Advisory Council on the Environment (SRU) recently showed



**“Supplies of many common metals will only last for a few more decades.”**

using elaborate scenarios that it is certainly possible for Germany as part of the European Union to be supplied with reliable and affordable electricity purely from renewable sources by 2050. The mix of renewable energy will be very much based on wind power for reasons of potential and costs. Large-scale networks and electricity storage capacities are, of course, needed to compensate for and distribute the fluctuating supply of such energy. When calculating electricity requirements, it was even assumed that all private transport will be run on electricity by 2050. Furthermore, if all buildings have finally been sufficiently insulated then the residual heat needed can also be fully supplied using regenerative sources. Now, an industrial society does not only need electricity, heat and mobility for final consumers but will continue to need a high performance raw >>



“The industrial society of the future will have to rely on a comprehensive recycling sector that is based for the most part on secondary raw materials.”

>> materials industry that supplies iron and steel, aluminium and copper, chemicals and cement. Aluminium electrolysis or an electric steel plant can, of course, also be supplied with renewable energy over the long term. Furnaces, however, need coke as a reducing agent and the chemical industry is still based largely on hydrocarbons originating from crude oil. Even these materials can over the long term be substituted with materials from renewable resources. To achieve this, electricity must be generated in large solar and wind parks with which hydrogen can be produced via electrolysis. This could be used directly as a reducing agent. Moreover, hydrogen with carbon dioxide from the air or from industrial processes can be converted into regenerative hydrocarbons and base chemicals such as methane and methanol. Last but by no means least, a modern industrial society also needs, besides energy, a large number of metals and minerals which are hard or practically impossible

“A clear course must be set to achieve this as well as extensive joint efforts made by all those active in politics, science and the economy.”

to substitute. Supplies of many common metals such as lead, zinc, copper, tungsten and nickel will only last for a few more decades. Furthermore, our high-tech industry is

dependent on many so-called strategic raw materials such as tantalum, niobium, platinum, neodymium and indium. Many of these raw materials are in the hands of just a few countries and a few companies thus clearly restricting free market mechanisms. When, in the future, natural reserves have been exhausted and even the old disposal sites have been removed, the industrial society of the future will have to rely on a comprehensive recycling sector that is based for the most part on secondary raw materials. It will, of course, be necessary to design and manufacture our products so that they can be dismantled when they reach the end of their useful life and can be re-used as secondary raw materials.

The elements outlined here show that it is genuinely possible to create a sustainable industrial society. A clear course must be set, however, to achieve this as well as extensive joint efforts made by all those active in politics, science and the economy.

**Prof. Martin Faulstich**

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Chairman of the German Advisory Council on the Environment (SRU), Berlin (www.umweltrat.de)



Latest news

# Poland in the fast lane

IN ITS MOVE TO ADOPT THE EU WASTE DIRECTIVE, POLAND NOW HAS THE OPPORTUNITY TO OVERTAKE GERMANY FOR THE FIRST TIME IN THE AREA OF ENVIRONMENTAL TECHNOLOGY

As it moves towards creating a recycling economy as called for by the EU, Poland now finds itself being given a unique historic opportunity. The country could now avoid making a bad investment in thermal incineration capacities and instead move directly towards creating a genuine recycling economy. REMONDIS aktuell spoke to Dr Jurek Golda, a member of the supervisory board of the Polish branch association, PIGO, about what measures need to be taken to set the course for the future.

**REMONDIS aktuell:** Dr Golda, the EU is demanding that member states considerably increase their levels of materials recycling. There is still a long way to go to achieve this. Where exactly do you believe Poland is in this matter?

**Dr Golda:** Basically speaking, Poland is at the same stage as Germany was in before it introduced a separate waste collection system. Way over 90 percent of all waste is being sent to landfill; there is practically no materials recycling or it is still in its infancy. We still have a great deal to do.

**REMONDIS aktuell:** What measures do you believe Poland should undertake?

**Dr Golda:** The EU's new Waste Directive places priority on avoiding waste and then on reuse or materials recycling. Thermal recycling should only play a subordinate role. What we primarily need in Poland, therefore, are more facilities to process waste for materials recycling.

**REMONDIS aktuell:** Should not greater efforts also be made in the area of waste collection to achieve this?

**Dr Golda:** Of course, recycling can only work if people are aware of the fact that good quality recycling material primarily comes from clean and separately collected material fractions. Simply shoving valuable secondary raw materials into waste incinerators because the furnaces are there will not help us at all. For this reason, Poland must make every effort in the future to have as much material as possible recycled.

**REMONDIS aktuell:** And what would such efforts involve?

**Dr Golda:** Besides avoiding waste, priority must be given to introducing a separate waste collection system for recyclables throughout the country. Poland also needs a comprehensive recycling ordinance that covers the nationwide introduction of separate collection systems such as recycling bins and bins for biowaste as well as the strict adherence to EU regulations concerning the recycling of waste electrical appliances. The country has a huge recycling potential in these areas. >>



Poland has the unique opportunity to overtake Germany in the area of environmental technology.

>> **REMONDIS aktuell:** Germany realized some time ago that putting waste in landfills is harmful for both the groundwater and the climate. For this reason, the landfills were closed down and instead there was a greater use of waste incineration plants. Was this the wrong decision?

**Dr Golda:** Perhaps at that time it made sense for Germany with its approx. 80 million inhabitants to build more waste incineration plants after the landfills were closed to prevent a waste crisis. But today, such a move can only be seen as

**REMONDIS aktuell:** And yet it is precisely the substitute fuels that are considered to be an attractive alternative for primary fuels. How does that fit together?

**Dr Golda:** This is precisely the reason why Poland does not need more waste incineration plants. A large volume of waste for incineration is already being supplied to cement works as substitute fuel. There would not be enough material for new incineration plants. If we take the distribution of waste in Germany as an example then it becomes clear just what a unique opportunity we have at the moment. Germany is already recycling 63 percent of the waste generated in its country. Only 37 percent of the waste is sent for actual disposal. And there is still potential to further increase recycling figures. If the bin for biowaste is introduced across the country and if the much discussed recycling bin is also introduced, then the amount of waste sent for actual disposal could be reduced to just over 20 percent. The result is that Germany is already having to cope with overcapacities in incineration plants. There is simply not enough waste for so many plants. Each year, only 10 million tonnes of municipal waste is generated in Poland. If the EU Waste Directive is adopted – and this should have happened by the end of this year – then there will very little waste left for incineration; we have calculated around 50 kg per inhabitant per year. I believe – looking at these figures – that Poland is well advised not to make the same mistake as Germany.

**REMONDIS aktuell:** That means you wouldn't recommend anyone to invest in new waste incineration plants now?

**Dr Golda:** It will not be possible to do completely without waste incineration plants. Poland must, however, keep the size of such plants as small as possible so that they are suitable for the volumes of waste that can be expected in the future. We should not be blinded by EU subsidies. The EU subsidies amounting to 1 billion euros for the planned municipal waste incineration plants with an expected capacity of 3 million tonnes are clearly a bad investment, for there will definitely not be 3 million tonnes of waste available for incineration in Poland. Priority must be put on recycling as stipulated in EU law. We can, therefore, spare ourselves an unnecessary intermediate

**REMONDIS aktuell:** Dr Golda, thank you very much for the interview.

The EU has stipulated that there should be more recycling which means less incineration. Planning and investments must take this development into account.

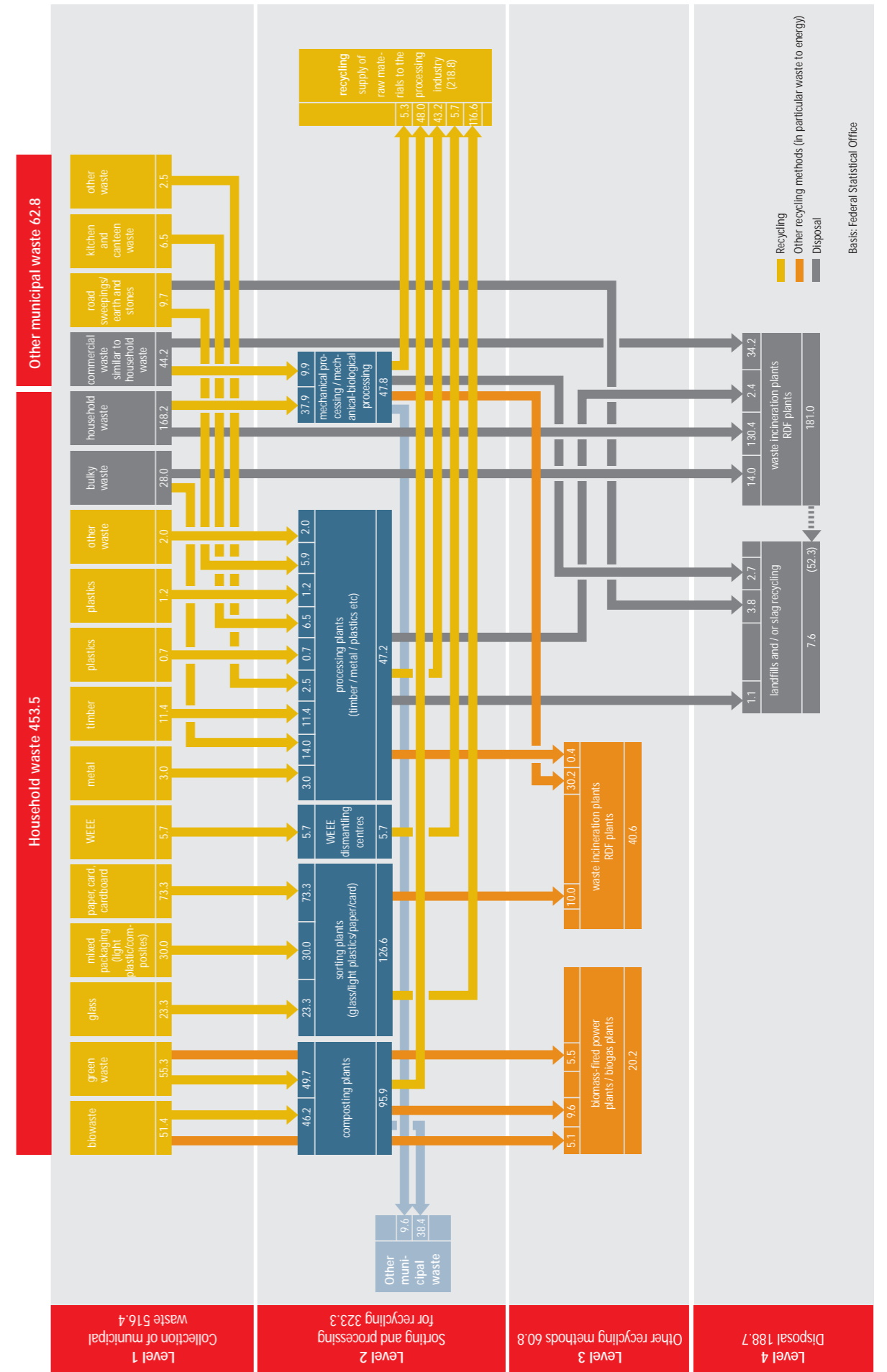
an interim solution. At that time, people had not yet realized just how important waste would become as a source of raw materials. Europe has taken a great step forward since then. If we learn from the mistakes made by Germany in the past, then Poland can leave out the evolutionary stage of waste



Dr Jurek Golda, member of the supervisory board of the Polish branch association, PIGO

incineration and move straight on towards creating a future-oriented recycling economy. If you look at just how many recyclables can be recovered from household waste, then the question really has to be asked whether incineration is an intelligent alternative. Apart from the obvious fact that Germany has such high capacity levels that many plants are already suffering financial problems. Overcapacities always have a negative effect on prices and, by the way, also on recycling.

### Current disposal of municipal waste – taking Germany as an example (figures in kg/inhabitant/a | total volume per capita in 2008: 516.4 kg/a)



# New tasks in Eastern Europe

## REMONDIS CONTINUES TO EXPAND IN EASTERN EUROPE

REMONDIS already holds the position of market leader within the water and environmental service sectors in neighbouring Eastern countries such as Poland and Hungary. More and more local councils in Russia, the Ukraine and Belarus are now looking to adapt their infrastructures to meet Western European standards. REMONDIS has appropriate solutions for such intentions, too, and is looking to implement such projects by creating partnerships.



The situation in these three Eastern European countries is for the most part identical: waste is simply dumped in landfills throughout the land. Recyclable materials, therefore, remain unused. This situation is now set to change. The aim is to restructure the classic waste management system and create a modern recycling economy. This involves both clearly reducing the amount of residual waste taken to landfill and consistently collecting and making use of all recyclables contained in the waste.

### Joint ventures and PPPs: strong teams with high levels of expertise

However, both know-how and money are needed to develop the infrastructure and adapt it to Western technological standards. This is quite a problem for Eastern European councils and districts which, besides lacking the necessary experience, often do not have the financial means to invest in vehicles, plants and personnel.

And this is the starting point of many discussions held between those responsible for waste management in the regions and REMONDIS' experts. For this leading European water and environmental service company can contribute its high levels of know-how and point out financing opportunities. Thus, the parties complement each other perfectly in Eastern Europe, too, when they set up local waste management partnerships. By establishing joint companies, either as joint ventures or public private partnerships (PPP), the strengths of all those involved can be united and sustainable advantages created for the local inhabitants.

### Using waste as an important source of raw materials

The main prerequisite for collecting and processing the valuable raw materials contained in waste and returning them to the production cycle is to set up separate waste collection systems. To achieve this, additional recycling bins are placed in the towns and districts. They are used to collect PET plastics, glass, metals, plastic film, tetrapaks, paper and cardboard.

The transformation of the system is mostly carried out by upgrading the container sites, technology and vehicles used to collect waste. Modern sorting plants then help to process the recyclables achieving such high levels of purity that the materials can be returned to the economic cycle. The regional partners can also rely on REMONDIS' high levels of expertise when it comes to planning and financing as well as building and operating the sorting plants. This is true for investments in composting plants as well as in a possible planned entry into the area of supplying water and/or treating wastewater.

REMONDIS is continuing to successfully expand its business in Eastern Europe using the methods of approach outlined above. The company is already demonstrating its expertise in setting up and operating a modern recycling economy in several strategically important regions in Russia, the Ukraine and Belarus.





## Ukraine: REMONDIS provides services for 2.3 million people in seven cities

REMONDIS' activities in the Ukraine began in Saporoshje in August 2007 with the foundation of a public private partnership (PPP), the largest ever established in the country at that time.

In July 2010, REMONDIS took over a 61 percent share in the large municipal waste management company, Seltik, in Kiev. The company has been providing services for the local inhabitants living in the Ukrainian capital for ten years and has a logistics network with 28 vehicles and 400 containers. The primary aim is to extend the separate waste collection system. In order to achieve this, REMONDIS has begun by providing 170 new containers. The next phase will be to build a sorting plant. Together with Kiev, REMONDIS is now active in seven Ukrainian cities. All in all, the company, with its approx. 600 employees, is already providing services – either directly or indirectly – for 2.3 million people living in the country. REMONDIS has also been active in Cherkassy, a town located in the centre of the Ukraine

with 280,000 inhabitants, since March this year. In May, the company introduced a separate kerbside collection system with recycling bins. It is using the two-tonne system which has already proven to be a success in other Ukrainian cities such as Saporoshje and Melitopol. Under the terms of the service agreement signed with the town's municipal company, Cherkasskaja Sluzhba Chistoty, services will be provided for two town districts with approx. 100,000 local inhabitants. A total of 600 new bins have already been made available, 140 of which are for collecting recyclables. REMONDIS' long-term plans are to establish a joint venture with the city authorities and to expand into other parts of the town.



## Belarus: REMONDIS founds a PPP with the capital

REMONDIS has entered the market in the Eastern European Republic of Belarus having founded a joint venture together with the City of Minsk. Both partners agreed to establish a PPP company at the beginning of July. The new company is to be run under the name, REMONDIS Minsk, and will, to begin with, provide its services with a workforce of 185 employees. Owners of the new company are REMONDIS (51% share) and the city authorities (49%). The privatisation of waste management services will act as a role model in Belarus; plans are for other towns to follow suit soon. To begin with, the joint venture will provide waste management services for the approx. 700,000 local inhabitants living in the capital. The basis of the cooperation work is a joint venture with the municipal waste management business and a partner company that specializes in recycling materials. REMONDIS Minsk will introduce a separate collection sys-

tem in Minsk and the surrounding areas for residual waste and recyclables. The aim is to extend the activities in the near future to cover the whole of the city with its more than 1.8 million inhabitants.



Belarus, a landlocked country with few natural resources, is intending to transform its classical waste management sector over the coming years to create a recycling economy according to Western European standards.

Signing of the contract in Minsk by the Mayor Nikolaj Ladutko and REMONDIS board member, Egbert Tölle

“ Being an experienced partner, REMONDIS not only supports countries in Central and Eastern Europe in the areas of consultancy work, technology and service but also in the area of financing state-of-the-art water and recycling infrastructures.” Egbert Tölle, REMONDIS Board Member



## Russia: REMONDIS enjoying growth in important economic centres

Another example of the successful Eastern European initiatives is the company, OOO REMONDIS Naro-Fominsk, which was founded in a city near Moscow in July. REMONDIS owns a 51 percent share in the company. The remaining 49 percent is owned by NIZIT, previously a municipal business that is now owned by private investors and the district authorities of Naro-Fominsk. To begin with, the joint venture, with its approx. 120 employees and 50 vehicles, will take over the waste management activities in the district which has around 400,000 local inhabitants. REMONDIS will be investing in both new vehicles and containers and will also introduce a separate waste collection system with recycling

bins. Additional investments are planned to set up a sorting plant and composting plant. Furthermore, the range of services offered by the company is to be extended to include street cleaning and winter services. Another possibility is to become active in the area of water supply and wastewater treatment. The fact that the city is so close to Moscow means that there are good future business prospects for the new REMONDIS company. It is, therefore, intending to take over waste management services around the Russian capital. A total of almost seven million people live there. Further potential business for REMONDIS' services will also be found at the large number of international firms based

in and around Moscow that wish to have waste management systems in place in Russia that correspond with the standards of their parent companies.

The new associated company, OOO REMONDIS, is based in the south-west Russian city of Samara on the Volga River. To found the new company, REMONDIS purchased a 75 percent share in the former municipal company, OAO SpezAvtoTrans, which is responsible for approx. 50 percent of all waste management services in the city. This majority holding received intensive support both from Samara and

the region's ministry of the environment. Thus, REMONDIS and the ministry of the environment had signed an agreement in the run-up to the foundation of the new company concerning strategic cooperation work in the area of waste management and recycling. Samara, an important business centre, has 1.2 million inhabitants making it the sixth-largest city in Russia. The first measures that REMONDIS is intending to carry out here are to modernize the fleet of vehicles, to introduce a two-tonne system to collect recyclables separately, to provide around 5,000 Euro bins as well as to renovate and modernize the container sites.

REMONDIS has also been helping Russia to introduce Western standards since 2008. Its first project was to found a joint venture in Dzerzhinsk, a town in the region of Nizhny Novgorod.

Turkey

# Combined strengths

NEW JOINT VENTURE CREATES SYNERGIES FOR THE FUTURE



REMONDIS is increasing the speed of its entry into the Turkish recycling sector. Two strong joint venture partners have united in the region of Izmir: the local firm, BURCU Ltd., and REMONDIS Atik. They have already begun turning their ambitious goals into action.



REMONDIS and BURCU are pushing forward the modernization of waste management – in both the public and private sectors.

Izmir has almost 4 million inhabitants and is the third-largest city in Turkey. Around 20 percent of the country's industrial business is based in the province, which is called by the same name.

Creating an integral recycling economy in the Turkish industrial region of Izmir is being seen as a real challenge. Reason enough, therefore, for REMONDIS to demonstrate its core areas of expertise here, too. Its well-respected, nationally active joint venture partner is also playing an essential role: BURCU was the first Turkish company to receive a licence to collect industrial and hazardous waste and has, as a result, extensive experience as well as a well developed waste management infrastructure.

REMONDIS owns a 60 percent share in the newly founded company, REMONDIS Burcu A.S. The joint venture's head office is based in Izmir where a large part of the company's

turnover is generated. Furthermore, the company, with its 400 employees, is also active in Samsun, Manisa and Antalya. REMONDIS Burcu is already providing services for a large number of firms, including many international companies. Core activities include collecting and transporting industrial waste. In addition, industrial recyclables are collected and, for the most part, sold on the Turkish market. Moreover, the joint venture is active in facility management, providing temporary personnel and cleaning staff.

More than 650 guests from the worlds of business and politics, including the Mayor of Izmir and the Vice-Governor of the province, were able to gain a first impression of the new company's strengths at the official opening ceremony. Priority is currently being put on expanding the business division dealing with industrial customers. Services for the public sector should then follow in the future. Ozan Yalavuz, managing director of REMONDIS Burcu commented: "Thanks to REMONDIS' decades of experience, we believe that, in the medium term, we will also have the opportunity to establish ourselves in the area of collecting and treating household waste."



A management delegation from REMONDIS' German head office, headed by Norbert Rethmann, visited the Bursa and Fethiye plants to see for themselves the progress that has been made.



Water resources management

# Clear water for green cities

TURKISH REMONDIS AWARDED CONTRACTS BY BURSA AND FETHIYE

The REMONDIS Group and its water management activities are proving to be a success in Turkey, too. The latest examples are the cities of Bursa and Fethiye. Following tender processes, the city authorities have awarded REMONDIS new contracts to operate their wastewater treatment plants.



REMONDIS plans, finances, builds and operates plants on a long-term basis for Turkish authorities.

Both local councils had been able to experience REMONDIS' high standards of performance over the last few years. The company has been active in the region in the area of wastewater treatment since 2007. From its head office in Istanbul, the Turkish company, 'REMONDIS Su ve Atiksu' has been providing a complete range of water management services from planning and financing to building and operating plants on a long-term basis.

Mountains, a popular skiing and sports resort. Previously the capital city of the Ottoman Empire, the town is known around the world for its impressive mosques and thermal springs. Last but by no means least, Bursa is known as the green city on the Marmara Sea thanks to its lush vegetation and centuries-old trees.

### Operating one of the largest plants in Turkey

In the future, the company will be operating one of the largest wastewater treatment plants in Turkey for around two million households in the region of Bursa. The aim is to guarantee the reliable treatment of municipal wastewater in this emerging and rapidly growing region.

### Areas of natural beauty must be protected

REMONDIS has also been awarded a contract by the City of Fethiye, several hundred kilometres further south of Bursa, to operate its municipal water processing plant. This plant has a daily capacity of 47,000 cubic metres and makes an important contribution towards protecting the environment of the city's beautiful beaches. A reliable wastewater treatment system is an essential prerequisite for the attractive tourist region near Fethiye to ensure it keeps its reputation as being the green city on the Turkish Aegean.

Bursa is the fourth-largest city in Turkey and lies around 100 kilometres south of Istanbul close to the Uludag





Latest news

# Guaranteed by the public sector – Carried out by the private sector

AN INTERVIEW WITH REMONDIS MANAGING DIRECTOR HERWART WILMS ABOUT THE ALLOCATION OF RESPONSIBILITIES IN THE GERMAN ENVIRONMENTAL SERVICE SECTOR

The public debate about a possible re-nationalization of environmental services by local authorities is often shaped by ideological arguments rather than by factual knowledge of the matter in hand. Very few people really know how the tasks involving the collection, sorting, recycling and disposal of waste streams are actually allocated in Germany. REMONDIS aktuell spoke to Herwart Wilms, a managing director at REMONDIS, about who actually does what with German waste.

95 percent of all waste in Germany is collected, sorted and processed by the private sector.

**REMONDIS aktuell:** The public is generally not aware of what volumes of waste are generated or about who is in charge. What do the waste streams actually comprise of and who is responsible for these?

**Herwart Wilms:** Around 3,650kg of waste is generated per capita per year in Germany – a total, therefore, of almost 300 million tonnes per year. The majority of this is construction and demolition waste. Households only produce 454 kg per inhabitant, which is only approximately 12 percent of the total amount of waste generated.

**REMONDIS aktuell:** And who deals with the particulars here?

**Herwart Wilms:** Contrary to popular opinion, it is above all private-sector companies that deal with the collection of the waste. We are not just talking about kerbside collections here but also, besides municipal waste, about hazardous waste, commercial waste, construction waste and industrial waste. Looking at the total volume, the private sector collects around 95 percent of all waste types in Germany. But even if you only look at the classic household waste, the municipal companies only have a 37 percent share of the market. And we are only talking about the collection of the waste here.

**REMONDIS aktuell:** What is the situation as far as the sorting and processing of the waste is concerned?



“Cooperation work between local authorities and the private sector is particularly good when public private partnerships are set up.” Herwart Wilms, managing director at REMONDIS

**Herwart Wilms:** The situation in this segment is even clearer with the private sector having a market share of 98 percent. The truth of the matter is that practically no local authority has the necessary infrastructure or plant technology to be able to implement an environmentally friendly recycling economy with the highest possible levels of recycling. Here, Germany benefits almost exclusively from the know-how of private sector firms working within the branch, know-how that – incidentally – has also become a genuine export hit.

**REMONDIS aktuell:** Does that mean that the comparatively high recycling rates in Germany can for the most part be put down to the private sector?

**Herwart Wilms:** Private sector companies have at any rate taken over the majority of the tasks in this area. As a result, 84 percent of all waste is sent for either materials or thermal recycling. Only 16 percent of the amount of waste that has to be actually disposed of is still sent to waste incineration plants or to landfill. Waste collection is, therefore, only the beginning of an extensive recycling chain, the means, so to speak, to improve raw material yield in our country which has so few natural resources of its own. And the actual recycling of waste is already being carried out today for the most part by private sector firms, for example waste paper, glass and metal.

**REMONDIS aktuell:** So what role does the much quoted duty of local authorities to provide essential services play in all this?

**Herwart Wilms:** The so-called duty of local authorities to provide essential services is in essence limited to the 37 percent market share for household waste collection. For a start, guaranteeing recycling services requires comprehensive investments and the highest levels of efficiency. This is precisely what the private sector has achieved over the last few decades so that they now have the highest possible

levels of expertise and technological know-how from which everyone is now benefiting. In contrast, local authorities generally do not have their own facilities. And even the waste collection services are very often commissioned out to the private sector. This is demonstrated by the distribution of jobs within the branch. Of the overall 250,000 jobs in the environmental service branch, 160,000 are provided by the private sector. What we do not need in the future, therefore, are phoney ideological debates but joint efforts to see how we can further improve the supply of raw materials and environmental protection in our country. And I emphasize the word “joint” here because cooperation work between local authorities and the private sector is particularly good when public private partnerships are set up

**REMONDIS aktuell:** What will such cooperation work be like in the future?

**Herwart Wilms:** There must be a clear division of labour here where the tasks are given to those who have the greatest level of expertise. This is the only way to be able to reach our raw material targets and to effectively adopt the requirements of the European Waste Directive. Thus local government should continue to supervise and take responsibility for waste management in their areas. This is undisputedly their core area of expertise. Today, the private sector with its high levels of expertise and 160,000 employees is, for the most part, already carrying out the tasks of collecting, sorting and recycling waste. And this should continue to be the case in the future, too.

**REMONDIS aktuell:** What can the legislator do here?

**Herwart Wilms:** We are expecting that the right of the private sector to carry out such work will be written into the new Law on Life-Cycle Management.

**REMONDIS aktuell:** Mr Wilms, thank you very much for the interview.

The so-called duty of local authorities to provide essential services is in essence limited to the 37 percent market share for household waste collection.

# Clear water and clean energy

HIGH-TECH SOLUTION FOR VALENSINA CREATES A DOUBLE ADVANTAGE

“This process unites highly efficient levels of treatment with the best possible use of the energy found in the contents of the wastewater.” Dr Matthias Krüger, project leader at REMONDIS Aqua



Treating wastewater and at the same time generating energy – the Valensina Group has now decided to make use of this double advantage, too: this specialist for premium fruit juice drinks has signed a contract with REMONDIS Aqua commissioning them with the task of building and operating an anaerobic wastewater pre-treatment plant. This state-of-the-art facility generates biogas from the wastewater which is then fed back as energy into the production process.

Valensina is one of the leading suppliers of fruit juices and soft drinks in Germany. One of the company's subsidiaries is FSP Frischsaft FRISCHE Produktions GmbH. FSP produces high quality chilled fruit juices and premium smoothies under its Valensina brand at its site in Mönchengladbach. The company is already market leader in this market and continues to enjoy high levels of growth.

### Conserving resources and protecting the climate at the same time

This dynamic expansion has meant that the site's production capacity has had to be extended and a new concept developed for the plant's wastewater treatment system. Having searched for a suitable partner, the company opted to work together with REMONDIS Aqua and its anaerobic wastewater treatment concept run according to its RE2ENERGY® system. “This process unites highly efficient levels of treatment with the best possible use of the energy

found in the contents of the wastewater,” explained Dr Matthias Krüger, project leader at REMONDIS Aqua. “This in turn guarantees top quality sustainable wastewater treatment and particularly fulfils the Valensina Group's stringent requirements concerning quality and resource efficiency.” The biogas recovered from the treatment process is used in the fruit juice production process to generate steam. It substitutes, therefore, the natural gas that was previously used and, by being a renewable source of energy, helps to achieve significant CO<sub>2</sub> savings and push forward climate protection.

### More reliable forecasts thanks to contracting

REMONDIS Aqua is responsible for both building the facility and operating it once it has been completed. A contracting business model has been used for both projects, with the framework conditions being perfectly adapted to fulfil the requirements of the client.

This kind of cooperation work is becoming the first choice for an ever greater number of companies that are looking to have the best possible technology and business processes for their wastewater treatment systems. And there is a good reason for this: for outsourcing the extensive wastewater treatment tasks is directly beneficial for a production company's core business. Furthermore, being the contractor, REMONDIS Aqua takes over all technological and business risks. For the clients, this means that the costs for wastewater treatment can be reliably calculated for a long period of time and can, therefore, be planned exactly.

Its innovative contracting business models within the industrial water management sector are one of the particular strengths of REMONDIS Aqua. Being the market leader, the company works in this area in a wide number of branches. As energy can also be generated, such contracting solutions are of particular interest to the food industry. Thus, REMONDIS Aqua has built and operates similar facilities for very different kinds of food companies – in Spain for example for the WILD Group which produces fruit juices and concentrates in Valencia, a region famous for its orange groves.

### Water Company of the Year

REMONDIS Aqua was one of four companies recently named “Water Company of the Year” and presented with the GWI Global Water Award in recognition of its major accomplishments. This renowned prize is given to companies that have made a significant contribution to further developing the international water resources market through projects or new technology. The prize was handed over to Dr Lars Meierling from REMONDIS Aqua by Queen Nur al-Hussain of Jordan during a gala dinner held in Paris.





Commitment

## Committed to the region

HOSPITAL SUPPLIED WITH FREE DRINKING WATER

Wasserverband Lausitz Betriebsführungs GmbH, known as WAL-Betrieb, stands for the purest form of water. The company demonstrates its high levels of expertise in the areas of wastewater treatment and water supply with its progressive solutions. WAL-Betrieb, a subsidiary of REMONDIS Aqua, has also demonstrated its social commitment to the region – for example providing drinking water for the Niederlausitz Clinic.

The Niederlausitz Clinic is the largest hospital in south Brandenburg providing general patient care. The clinic has a total of 500 beds for in-patients as well as day-care treatment space for 60 out-patients at its locations in Senftenberg, Lauchhammer and Klettwitz. The hospital's main aim is to ensure that its patients recover as quickly as possible. Besides providing first class medical treatment, the hospital is also looking to provide a comprehensive service for patients to achieve its targets. WAL-Betrieb is helping out here: it is supporting the hospital by providing drinking water bottles for the dispensing machines set up in the corridors. The system involves 36,000 water bottles. These bottles are handed out to the patients who can fill them up at the dispensers whenever they want free of charge.

For WAL-Betrieb, it goes without saying that they show social commitment in their region. "We have always made every effort to provide advantages in the region that go beyond our normal areas of activity," explained managing director Karin Rusch. Focus here is, in particular, put on activities that help children and young adults. A good example of this was the company's participation in the "Jugend denkt Zukunft" project. The aim of this project, which was initiated by the German economy, is to encourage schoolchildren to develop ideas for the future. WAL-Betrieb's high level of commitment for young people is also demonstrated by the number of apprenticeship places it offers. The company, with its 12 percent, is clearly well ahead of the national average.



Being a subsidiary of REMONDIS Aqua, WAL-Betrieb has access to extensive know-how and highly trained staff.



Water resources management

## NRW Minister President Rüttgers visits the Lippe Plant

OFFICIAL OPENING OF REMONDIS AQUA'S NEW HEAD OFFICE IN LÜNEN

Dr Jürgen Rüttgers visited the REMONDIS Lippe Plant in Lünen on Monday, 12 July, his last day as Minister President of the German state of North Rhine-Westphalia (NRW). The occasion was the official opening of REMONDIS Aqua's new head office. Together with Unna district administrator, Michael Makiolla, the mayor of the city of Lünen, Hans Wilhelm Stodollick, and the managing directors of REMONDIS Aqua, Ludger Rethmann and Andreas Bankamp, Minister President Dr Rüttgers cut the red ribbon officially opening REMONDIS Aqua's new head office.

Since the beginning of the nineties, the site of the former aluminium plant in Lünen has been transformed into something completely new thanks to the initiative of a North Rhine-Westphalian, privately owned family business which has achieved this change with a great deal of energy, high level of responsibility and an exemplary willingness to invest in the site. Over the years, it has changed from being a site for waste management to being a location for genuine recycling activities and recovering raw materials for the state's economy as well as a production site for new high quality products made from recycled materials.

Minister President Dr Rüttgers and REMONDIS Board Chairman Ludger Rethmann both agreed that – in view of the fact that Germany has so few natural resources of its own – it is extremely important both for the country and in particular for NRW that more and more raw materials are recovered from local waste to continue to be able to guarantee supplies to the country's export-oriented economy. The Lippe Plant demonstrates in an impressive manner just

what the water and environmental service branch is already able to achieve. The site in Lünen clearly shows that practically all types of waste can be used to recover secondary raw materials, energy and heat. Thanks to this innovation, REMONDIS has made and is still making an important contribution towards the successful structural changes being carried out in North Rhine-Westphalia. With its activities in the raw material economy and environmental protection, REMONDIS is not only helping to keep the state clean in the true sense of the word. This North Rhine-Westphalian, family-run business has also created many new jobs in this future-oriented market. Many countries are in the meantime looking at the success in NRW and wish to implement this successful future-oriented water and environmental service model themselves – also with REMONDIS' help. As a result, the water and environmental service economy has become a new export hit for Germany. REMONDIS Aqua's new head office at the Lippe Plant in Lünen is an example of this positive development.

The water and environmental service economy has become an export hit for Germany.

RUHR.2010

# In the heart of the Ruhr Region

PUBLIC PRIVATE PARTNERSHIPS PROVE TO BE A SUCCESS IN THE CAPITAL OF CULTURE YEAR



The Ruhr Region – Germany’s largest industrial area with 5.3 million inhabitants on 4,435 square kilometres. This year, the region is Europe’s Capital of Culture. Over the whole year, it is presenting art and culture, its landscapes and people, history and future. Half way through, the event has already attracted 4.8 million guests to the region. A record number of visitors and a challenge for all those taking part in the organization.



53 towns have joined together for this ambitious RUHR.2010 project and have organized a total of 2,500 events. The City of Essen is right in the middle of it. It was named the Capital of Culture and is effectively representing the whole of the region making it the focus of attention. This means it must put on a high quality performance – and the same is true for the waste management business, Entsorgungsbetriebe Essen GmbH (EBE). EBE started a cleanliness campaign for the Capital of Culture Year, the success of which cannot be denied. Furthermore, it has been in charge of waste management for practically all the events in and around the town, and there have been many of them.

### Oriented towards the future

Change through Culture - Culture through Change. This is the motto of the Capital of Culture 2010 and stands for the strength of change. This motto can also be applied to EBE for the company was formerly purely a municipal business. Since 1999, it has been a public private partnership (PPP), in which REMONDIS owns a 49 percent share. “Working together, we have optimized business processes, entered new fields of business and adapted the company to market conditions. Today, we are extremely well prepared for the future,” explained Klaus Kunze. Being the managing director, he is not only one of the driving forces behind this company but also at VEKS – Verwertung und Entsorgung Karnap-Städte Holding GmbH, a firm based in Bottrop.

### Bochum

#### Reliable waste management services and optimum use of plants

VEKS was founded by the cities of Bottrop, Essen, Gelsenkirchen, Gladbeck and Mülheim an der Ruhr together with REMONDIS. The PPP ensures that reliable waste management services are provided along the Ruhr. Focus here is put on a mutual exchange of material: VEKS puts any free capacities that the Karnap waste-to-energy plant may have on the market. In return, it can also supply neighbouring plants

if necessary. This is particularly useful when maintenance work has to be carried out on the plant: during such times the plant has to be shut down and there would be considerable costs for the cities involved for temporary storage and transport if this mutual exchange did not take place.

#### Cooperation work means a strong group

Others have also noticed the advantages of VEKS’ solution. Thus, the waste incineration plants, Gemeinschafts-Müllverbrennungsanlage Niederrhein (GMVA) and the Dutch ARN B.V, which serves 29 districts on the Dutch-German border, have now joined the system. GMVA and ARN are incidentally also PPP projects in which REMONDIS owns shares. For, more can be achieved when working as a team – a premise that is particularly true for the Capital of Culture Year 2010.



### A40 motorway – the stage for everyday culture

One of the most spectacular highlights of the Capital of Culture Year 2010 was held in the middle of July: The Still-Life A40/B1. 60km of the A40 motorway, the region’s main traffic artery and Germany’s busiest stretch of motorway, was shut off to motorized traffic. Instead of the 140,000 vehicles that use this stretch of motorway every day, 20,000 tables were set up on the tarmac to create the world’s longest banquet table. More than three million people took part and, for six hours, celebrated a gigantic cultural party on the A40. REMONDIS’ work began after the event officially ended. REMONDIS Industrie Service and the Buchen Group used vacuum vehicles to empty the mobile Toi Toi Dixi toilets. EBE took over the task of cleaning the stretch of road beside Essen in a strategically planned finale. Around 170 EBE employees were involved in the event; most of them working on the motorway during the night but also with many working behind the scenes. The work was completed by one o’ clock in the morning and the A40 re-opened for normal traffic.

Dortmund

40

Oberhausen

Mülheim an der Ruhr

40

Essen

Duisburg



**Background**

Since its foundation in 1913, the specialist for agricultural technology, CLAAS, has been successfully implementing its strategy of being close to its customers and being technology leaders. Following its motto, "We want to do even better", the company has become one of the world's leading manufacturers of innovative agricultural technology. CLAAS is also active in the areas of production technology and industrial technology.

Environmental services

# Waste management partner for Europe

CLAAS, A MANUFACTURER OF AGRICULTURAL EQUIPMENT, IS NOW WORKING INTERNATIONALLY WITH REMONDIS, TOO

Agriculture is a branch of the future and its development has, for the most part, been characterized by the use of innovative agricultural technology. CLAAS, a company based in the east Westphalian town of Harsewinkel near Gütersloh, is one of the world's leading manufacturers in this sector. The company has been working together with REMONDIS in Germany for many years now. This successful partnership is now being extended throughout Europe.

Experience gained from the German sites is being taken into account for the waste management and logistics systems used at CLAAS' French plant in Metz.

The cooperation work with CLAAS began at its main factory in Harsewinkel. Over the following years, it was then extended to all of the German locations owned by this well-respected company. The next logical step has been, therefore, to extend the work further to include their foreign branches. The first country to take part in this international cooperation work is France where CLAAS runs, among others, a factory in St. Remy / Woippy near Metz.

**Waste management processes are changing**  
REMONDIS has been accompanying this producer of agricultural technology as it has expanded for a long time now and each stage of expansion has always meant new requirements in the area of plant waste management. Working closely together with CLAAS, REMONDIS has developed and implemented a series of suitable solutions over the years.

Top priority is always given to ensuring the in-house waste management systems conform to the production processes and correspond with the high standards of the modern recycling economy.

The waste management processes have changed considerably since the cooperation work began. This can, in particular, be seen at CLAAS' main factory – the largest in its network. The in-house logistics used now to collect and sort waste is completely different to the system initially used. In the past, a rear-loader was used – during the night shift so as not to affect production processes. This work, however, was not sufficient. Considerable amounts of residual waste and recyclables also had to be transported individually from the many departments to the collection site – work that was very time-consuming.

## Exemplary plant logistics put in place

This is a thing of the past. Today, the Harsewinkel plant has more than 70 'waste management islands' with over 230 containers. The containers have been adapted exactly for the material for which they are used and are labelled with a special colour code scheme and detailed information to ensure the materials are thrown away correctly and according to type. Extra large cardboard boxes and waste timber are compressed using so-called roll packers, increasing the carrying capacity and minimizing transport requirements to the recycling facilities. All processes are managed by REMONDIS employees on site at the factory.

To ensure that the new system completely fulfilled CLAAS' requirements, detailed information gathered from previous inventories and analyses of all processes were taken into account. This strategy is paying off now. All waste management and logistics processes fit in perfectly with CLAAS' work processes. CLAAS has also saved considerable costs as there has been a sustainable improvement in the amount of recyclables collected and at the same time the volume of

its residual waste has been reduced. Last but not least, the appearance of the production plant has benefited from this work: praise has often been given by visitors to the plant or by external auditors for the future-oriented, in-house plant logistics model.

CLAAS and REMONDIS employees during a visit to the French plant in Woippy





Contaminated land

# Reclaiming land

REMEDICATION WORK CREATES IDYLIC URBAN LIVING SPACE IN HAMM

## Full service for new space

From old gas works to obsolete chemicals factories: REMONDIS ProTerra GmbH is an expert for redeveloping all kinds of contaminated areas. Furthermore, its portfolio also consists of disposing of mineral materials. Acting as general contractor, ProTerra provides the whole range of services needed for such work. Each year, it ensures that up to 600,000 tonnes of material are disposed of safely.



Blossoming landscapes: REMONDIS ProTerra transforms obsolete industrial space into attractive and useful areas.

The structural changes in the Ruhr Region are forging ahead – supported by REMONDIS ProTerra. Those areas that used to play a key role in the industrialization process and Germany's 'economic miracle' are now being transformed into green service and residential areas. An example of this is in the city of Hamm. On behalf of AAV and Hamm's city authorities, REMONDIS ProTerra has been carrying out extensive remediation work creating the foundations for a new inner-city residential area.

From 1858 to 1918, Hamm had a gas works right in the centre of its city. Following the closure of the plant, parts of the site, which covers 12,500 square metres, was used for other purposes. Thus, a fire station, electricity works and swimming pool were located on this contaminated site until just recently. The three buildings had already been closed and, just as the contaminated earth, prevented the area from being used.

### High levels of expertise gained from many similar projects

REMONDIS ProTerra is now helping the city – having once again won a public tender issued by the AAV association, Altlastensanierungs- und Altlastenaufbereitungsverband NRW. "The reasons for awarding the project to ProTerra were its attractive offer as well as its experience having already redeveloped over 50 gas works areas," said Gerhard Knoch, managing director of AAV. This association, which is active throughout the state of North Rhine-Westphalia, redevelops contaminated land if those actually responsible for doing the work are unable to do so.

The land occupied by the old gas works is a real challenge. Not only the buildings need to be dismantled, parts of which are contaminated, but the earth must also be meticulously cleaned up. Large amounts of harmful substances found their way into the ground during the 60 years that the gas works was in operation, some of which are five metres be-

low the surface. Furthermore, there is a considerable amount of tar, a by-product of gas production. For this reason, REMONDIS ProTerra will ensure that all the contaminated soil is excavated and that the approx. 10,000 tonnes of contaminated earth and construction waste is disposed of safely. Following this, the company will re-fill the area with material that will meet the stringent requirements for its future use.

### Uniting safety and cost awareness

The aim is to transform this obsolete land into a residential area that is not only close to the city centre but which is also 'green'. "There can be no compromises when it comes to creating safe residential land," explained REMONDIS ProTerra managing director, Andreas Friese. "For this reason, we carry out top quality remediation work. We have drawn up the best possible concept saving our client both time and money."

The majority of the project is being financed by the AAV. Just over one third of the overall costs are being paid by the local authorities and the municipal utilities company, which owns the land. And the work has already begun: in July, REMONDIS ProTerra began dismantling the old buildings which comprise a total of 44,000 cubic metres of enclosed space. These specialists will have fully completed the project by March next year making a successful contribution towards improving the city centre.

From calculating a project, to implementing it, to disposing of waste: REMONDIS ProTerra carries out every stage of the process chain.



Today, around 3.5 million households are supplied with electricity from biogas plants.

Biogas

# It all depends on the input

SOURCE MATERIAL AND TECHNOLOGY DETERMINE ENERGY OUTPUT

Added ecological value: the unavoidable competition for land between energy crops and food crops means that using waste is not an issue.

Biogas is booming. Around 5,000 biogas plants have been put into operation in Germany over the last ten years. They primarily process energy crops or agricultural substrates. Waste, however, can also be used as a source material. With its many years of experience and its extensive know-how, REMONDIS is an excellent partner for local authorities, the industry and commerce in this field of business, too.

The RETHMANN Group was one of the pioneers in the area of generating energy from biogas. The company group put its first plant into operation back in the 90s. Today, REMONDIS goes beyond just using its own plants and facilities and has participated in a large number of customer projects, signing contracting business models to build and run biogas plants.

### Generating energy from waste

As far as the source material is concerned, REMONDIS primarily uses residual agricultural waste, food waste and municipal green and biowaste. Its water management division also uses organic materials from its wastewater treatment processes to generate biogas. The consistency, mineral content and energy value of a waste material are the decisive factors determining whether it is worth using it to generate

energy. Using batches of high-energy waste food that has been collected separately, for example, makes far more business sense than using municipal waste.

### Individual solutions needed

One particular challenge is the fact that the content of biowaste changes considerably throughout the year. As a result it does not necessarily make good business sense to use tree and plant cuttings despite possibly receiving a Na-WaRo bonus (bonus for producing electricity from renewable sources) or other official incentives. "We look to find an individual concept for each project," explained Aloys Oechtering, managing director of REMONDIS' subsidiary, RETERRA. "Experience has shown that, in most cases, it is the right technology or a combination with other processes that opens up interesting avenues."

Generating biogas from waste presents much greater challenges than using sweet corn, sugar beet or grain.



Modernization

# A clever combination

WARENDORF COMPOSTING PLANT UNITES BIOENERGY AND COMPOSTING

The composting plant belonging to the District of Warendorf is taking a new approach for recycling biowaste. In the future, a biogas plant will be used to convert 18,000 tonnes of biowaste into biogas that can then be used as energy. As a result, the district, which already uses landfill gas to generate electricity and heat, will be tapping into a further alternative source of energy.

For 16 years now, the composting plant has been processing biowaste and plant and tree cuttings from the Warendorf district into accredited, high quality compost. Around 680,000 tonnes of material has been processed during this period. However, modernization measures have had to be carried out because of the age of the facility. This has been seen as an opportunity to use a part of the investment sum to build a future-oriented biogas plant.

The waste management company owned by the District of Warendorf and REMONDIS have chosen a forward-looking concept that unites tried and trusted methods with new features: the current total capacity of the plant, namely 52,000 tonnes per year, will remain unchanged. However, in the future, 18,000 tonnes of the approved biowaste input will undergo a new digestion stage. The residual waste

from this process will be used by the plant to make high quality compost together with the remaining biowaste and plant and tree cuttings.

The foundation stone has already been laid for the new biogas plant. This digestion phase should be operating by the end of this year. A dry digestion process will be used during which micro-organisms from the source material will produce methane. The high-energy gas will then be converted into electricity and heat in a combined heat and power plant and supplied to the waste management centre in Ennigerloh. This allows them to be less dependent on the development of energy prices and at the same time helps to prevent climate change. For, the biogas plant means that fewer fossil fuels need to be used thus clearly reducing CO<sub>2</sub> emissions.

Biogas is becoming more and more important as a local source of energy. Compost and biogas complement each other perfectly.



# Freiburg opts for electricity and heat from landfill and biogas



## Landfill gas

### Green energy from digestion processes and landfill gas

The basic prerequisite to be able to generate electricity and heat from landfill gas is said to be a methane content of more than 55 percent. The City of Freiburg, however, is demonstrating that landfill gas with lower levels of methane can also be used to produce energy. Landfill gas and biogas are being mixed together as part of a joint project – with convincing results.

Gas captured at the Eichelbuck landfill in Freiburg has been used to generate electricity and heat for almost 20 years now. This process, however, was on the brink of folding because the methane concentration and, as a result, the calorific value, had dropped, since waste was no longer being taken to the site for disposal. In order to save this regenerative source of energy, Freiburger Abfallwirtschaft (ASF), badenova (local energy supplier) and REMONDIS developed a model that ensured that the gas could continue to be used for at least a further ten years.

This future-oriented concept focuses on enriching the landfill gas: from September 2010 onwards, it is to be mixed with biogas originating from a digestion plant in which REMONDIS processes biowaste from Freiburg and the district of Breisgau-Hochschwarzwald. The gas is being transported via a pipeline which connects the existing system with the biogas plant located 1.5 kilometres from the landfill.

Adding this gas means that the landfill gas can be processed in an ideal way at badenova's combined heat and power plant as energetic recovery will be increased from 21 to 72 percent. Gas yield from the digestion of biowaste will also benefit: as it will put to full use it will also increase to 72 percent.

badenova has calculated the efficiency of this new process: in 2011, 12,400 MWh of electricity and heat respectively will be able to be generated from the approx. 2 million cubic metres of usable landfill gas. Enough, therefore, to supply 4,900 households with electricity and 1,200 households with heat.

**“The new solution will mean CO<sub>2</sub> savings of 10,000 tonnes a year – an important contribution towards achieving our town’s climate protection targets.”**

Dieter Salomon, Mayor of Freiburg

#### Background

##### Landfill gas

Around 16 percent of the electricity mix in Germany comes from renewable energy sources. The percentage of landfill gas towards this is relatively low and, unlike other forms of alternative energy, is unlikely to increase in the future. The reason for this is the declining supply of landfill gas: it is no longer permitted to take organic materials to landfill which, in turn, reduces the amount of methane gas created. This is a positive development as far as climate protection is concerned as methane, a greenhouse gas, is one of the main causes of climate change. Landfill operators are, therefore, required by law to capture and neutralize landfill gas. Ideally, it can be used – as in Freiburg – to generate energy. This is, however, only possible to a limited extent as less gas is produced by landfills thus reducing levels of methane. Adding biogas from other sources, therefore, is an ideal solution: this combination allows practically the full potential of landfill gas to be exploited – making it efficient and climate-friendly and helping to conserve natural resources.

**REMONDIS®**







Facility Management

# Successful model for the housing industry

EXPANSION CONTINUES – INNOTEK FURTHER EXTENDS ITS POSITION AS MARKET LEADER

**!nnotec**  
abfall-management

[ Das rechnet sich für mich ]

Convincing concepts are the best basis for achieving dynamic expansion. Innotec abfall-management GmbH has demonstrated just how quickly good ideas can establish themselves on the market. This Kiel-based company provides a full range of services for residential properties. It is responsible for looking after a good 650,000 flats across the country. And this number is continuing to grow as the demand for such services increases.

The core service provided by the company is conventional waste management. Here, Innotec provides tenants with advice on separating and avoiding waste and, besides checking the contents of the bins, is responsible for keeping the container sites clean. The result: a well-kept living environment and a clear reduction in waste collection costs.

Innotec creates win-win situations from which all those involved benefit – both housing associations and their tenants.

Besides providing these classic services, Innotec also implements a fair waste management system with tenants paying according to how much waste they produce. The tenants open the flaps of the bins using a chip and the waste that they throw away is measured according to volume or weight which is then assigned to their flat. Households, therefore, can almost halve the size of their waste charges by separating recyclables and keeping the volume of residual waste as low as possible. Innotec, one of REMONDIS' associated companies, also provides energy management

services besides waste management. The latest innovation introduced by the company, the Internet portal INIS, unites these two areas. Both tenants and landlords can call up the latest information about their waste and energy consumption. Thus, the users have the opportunity to actively influence how the supply and disposal services are used and they can keep an eye on the costs so that there are no nasty surprises when the bill is sent at the end of the year. Furthermore, this digital platform is able to collect all relevant data on installation functions as well as recognize deviations from normal consumption or detect faults allowing them to be repaired. Innotec managing director, Sven-Hauke Kaerkes, concludes: "INIS gets to the heart of what we do for housing associations: a tenant-friendly living environment combined with low running costs."



Apprenticeships

# Creating the future

NEW TRAINEES LAY THE FOUNDATION FOR THEIR FUTURE CAREERS

Once again, more than 400 young men and women have chosen to do a traineeship or apprenticeship at REMONDIS or one of its sister companies, RHENUS and SARIA, this year. As a result, the number of trainees and apprentices in the RETHMANN Group has risen to a total of 1,317. Young people are increasingly finding the water and environmental service branch and the area of logistics an attractive alternative for their future careers. School leavers are very much able to identify with the main features of this sector – environmentally friendly, modern, future-oriented and globally mobile.

The first steps are always the hardest. This is also true when starting a career as it involves making important decisions for the future. What professions will still be in demand tomorrow? What skills should I learn so that I can enjoy long-term success? These are just two of the questions that young people have to consider when applying for an apprenticeship. This year, 211 young people beginning their careers made the right decision to join the company – and this figure only includes those joining REMONDIS in Germany. They began an apprenticeship this summer in one of the approx. 40 different professions within the water and environmental service branch.

It is a good decision for a future career in a world which will only be able to solve problems of supply by consistently increasing activities in the area of recycling and water management. Many experts have already recognized the new megatrend: the shortage of raw materials can only get worse as natural reserves dwindle which in turn will mean that the demand for well trained employees in the areas of recycling, waste management, water processing and water supply as well as transport and logistics will steadily

increase. REMONDIS is ensuring it has its own future supply of employees with its continued training initiatives. The amount of trainees taken on by the company after they qualify continues to be high; the career opportunities are excellent. One particularly future-oriented course is the traineeship for industrial clerks combined with a bachelor's degree, in which academic theory is strengthened with extensive practical knowledge.

The traineeships and apprenticeships on offer range from chemical and technical professions to vehicle technology and mechatronics, from classic commercial professions, IT, energy technology, electronic and metal professions to logistics and classic trades. What is important is to ensure that the skills taught can be used in other branches. Flexibility is a quality that is not only expected of young employees. The fact that many of these young people remain at REMONDIS once they have qualified can, on the one hand, be put down to the promising prospects of working in the future-oriented water and environmental service branch. And, on the other hand, it is fun working in a young team and helping to shape the future.

REMONDIS offers young people attractive traineeships with great future prospects.





People & initiatives

## Working together to be a success

(front row, from left to right) Stefan Rist, Gabriele Rohr, managing directors of Nordharz Entsorgung GmbH and Michael Dietze, board member of enwi, signing the contract (back row, from left to right) Bernd Fleschenberg, managing director of REMONDIS Region East (deputy chairman of the supervisory board of Abfallwirtschaft Nordharz GmbH), Dr Michael Ermrich, district administrator of the district of Harz (chairman of the supervisory board of Abfallwirtschaft Nordharz GmbH), Norbert Rethmann, honorary member of the supervisory board of RETHMANN AG & Co. KG, Ingo Ziemann, deputy board member of enwi

### PPP COMPANY IN NORDHARZ WINS EUROPE-WIDE TENDER

Following a Europe-wide tender process, Nordharz Entsorgung GmbH, a subsidiary of Abfallwirtschaft Nordharz GmbH, was once again awarded a contract to collect household and bulky waste in the district of Harz with its 240,000 inhabitants. The contract was signed for a minimum period of 6 years creating a solid basis for further developing the company.

Representatives of the shareholders and management of Nordharz Entsorgung joined representatives of the City of Halberstadt to officially sign the contract on 14 July 2010. Norbert Rethmann and district administrator, Dr Michael Ermrich, praised the successful cooperation work between the public and private sector which first began in 1991. Michael Dietze, board member of the waste management company owned by the district of Harz, also praised the work carried

out together with the local REMONDIS employees and expressed his pleasure about the fact that this work was to be continued into the future.

Quality is always able to assert itself over the long term. This is shown again and again in the water and environmental service branch as the partnerships between local authorities and the private sector are able to achieve the best possible synergy effects. Public services, and not only waste management, are able to achieve the best possible levels of efficiency when PPP models are implemented and fee payers also benefit through lower charges.

What began as a municipal business for street cleaning and waste collection in Wernigerode in 1953 has been a PPP company between REMONDIS and the district of Harz since 1991. Following the merger with Abfallwirtschaft Quedlinburg in 1996, the PPP continued its business under the name Abfallwirtschaft Nordharz. Thanks to this successful partnership, the company is able to continuously benefit from REMONDIS' latest technical and logistical know-how.



The PPP in Nordharz stands for long-term, high quality services.

People & initiatives

# Blood donation drive at the Lippe Plant

### RED CROSS MOBILE BLOOD DONATING UNIT VISITS REMONDIS AGAIN

There is no artificial substitute for blood. Anyone might find themselves suddenly depending on blood donations as a result of an accident or illness. It is a good thing, therefore, that so many people are prepared to donate blood. And this is true for the employees at Lünen who recently took part in the second blood donation drive held recently at REMONDIS' Lippe Plant.



A modern mobile blood donating unit owned by the German Red Cross (DRK) recently travelled to Europe's largest industrial recycling centre. Over a period of five hours, around 40 people took up REMONDIS Medison's invitation and donated their blood. The company was particularly pleased to see that a third of the REMONDIS staff who took part were donating for the very first time.

The campaign was organized by Blutspendedienst West, a union of the DRK blood donor services in the German states of North Rhine-Westphalia, Rhineland-Pfalz and Saarland. As part of this group, the Centre for Transfusion Medicine, founded in 1969, has the task of supplying blood and blood-based products for the population of the North Rhine-Westphalian administrative district of Arnsberg. Furthermore, it is responsible for organizing blood donation

events and processing the blood given. To this effect, the centre organizes around 2,850 blood donation drives each year. The blood given is used to produce products which are delivered to a large number of hospitals and doctors' practices whose need for blood is continuously rising.

Voluntary DRK helpers assist in these campaigns primarily providing the donors with support. Eleven mobile teams, a bus team and the central blood donation unit are available in the region to carry out such blood donation drives. The response at the Lippe Plant was so good that a further blood donation drive has been organized for this autumn. These drives are a further example of REMONDIS' varied and sustainable social commitment to the region. The company actively encourages such initiatives, which are held regularly at the company's international locations.

Many REMONDIS employees supported the campaign and visited the DRK's mobile blood donating unit.

The Blutspendedienst West needs blood donations from up to 4,800 people every day to be able to cover the needs of the region.

Reference: report

# Safety & Cleanliness

REMONDIS IS THE SERVICE PARTNER FOR ALL WASTE MANAGEMENT ACTIVITIES AT EADS' LOCATIONS IN NORTH GERMANY



Several planes from various airlines are lined up side by side on the spacious grounds of the plant. What would first appear to be the departure area of an international airport is in fact the delivery grounds of the plane manufacturer Airbus in Hamburg. Since the beginning of the year, many REMONDIS employees from the North Region division have been seeing planes through different eyes. Besides the fascination of flight technology, the work here involves, above all, collecting and transporting production waste.

REMONDIS has taken over all activities concerning waste management at the Airbus plants belonging to EADS in Hamburg, Stade, Buxtehude as well as the Varel plant owned by Premium Aerotec. AIRBUS' central purchasing division puts great importance on all waste management services being provided by one competent partner. REMONDIS has already shown that it can fulfil all requirements in the best possible way. "We were not an unknown

The site in Hamburg is an important hub for many of the Airbus models. Each day, the Beluga transport plane delivers individual parts and preassembled components to the site from the other locations around the world. The planes are then fully assembled in the large halls on the River Elbe. Once the interior of the plane has also been completed, then the colours of the individual airlines are painted onto the plane. A large amount of very different kinds of waste is produced throughout the whole of the production process.

All of the employees involved in the waste management activities at the plane manufacturer's site in Hamburg know that the work cannot be completed with just a few vehicles and containers. REMONDIS manages a collection site on the premises for residual waste. All of the waste generated is first brought together by the company's employees and then immediately prepared for transport off the site. As a result, it has been possible to standardize procedures, bundle together transport and implement the existing logistics system in the best possible way.

quantity for Airbus as we have already been providing some individual services at a number of plants. The question for them was simply whether we were able to provide a full service. Thanks to our network of branches, associated companies and business divisions, we have a broad enough base to provide all the collection and disposal services that Airbus needs," explained sales manager Heiko Werner.

**"Everyone knows about the importance of providing quality services on a day-to-day basis."** Heiko Werner, sales manager at REMONDIS GmbH & Co. KG, Region North

REMONDIS uses a large number of different kinds of vehicles to be able to deal with the different areas of waste management. The waste collected ranges from recyclables to commercial waste and waste food to hazardous waste and data storage media. Each and every stage used to recycle and dispose of the waste is continuously being monitored, analysed and assessed. A particularly high standard of quality is expected when collecting the waste from the various work places. This can be seen clearly at the Stade site where the waste is separated at the individual work places before it is collected. REMONDIS' task here is to empty the individual containers and bins and to put the material together so that it can be transported. The employees must work with fork-lift trucks and small vehicles in all

areas of the plant. Thanks to its effective quality management system, REMONDIS ensures that high quality and safe production processes can be carried out at all times. "REMONDIS has been able to establish itself very well within just a few months since taking over the contract. Everyone knows about the importance of providing quality services on a day-to-day basis," Heiko Werner continued. Airbus has enjoyed steady growth and it is continuously further developing its range of planes including the A380. Being its partner for waste management, REMONDIS is using the whole of its experience and all of its expertise to serve this model European company and, as its service partner, is contributing towards the overall success of Airbus.

## Background

Airbus is one of the world's leading manufacturers of civil aircraft and military transport planes and employs approx. 52,000 people. Up to now, Airbus has produced and delivered 6,248 planes dominating the world's civil aircraft manufacturing sector alongside its American competitor, Boeing.

In 1974, this European joint venture business introduced the A300, the world's first wide-body twinjet. The first new plane that Airbus launched onto the market in the 80s was the A310. The A320 series, also introduced in the 80s, has become and still remains commercially the most successful family of planes. In the nineties, the long-haul jets, A330 and A340, were added to the portfolio. The latest and – because of its impressive size – the most spectacular member of the Airbus fleet is the A380 which can transport up to 525 passengers.



Industrial services

# Buchen: downtime means action

SUCCESSFUL CLEANING AND MAINTENANCE WORK FOR GERMANY'S LARGEST FUEL REFINERY MIRO



“Top priority is always given to ensuring that all work is carried out in the safest possible manner,” Karl Jovino, Buchen Group manager responsible for the west region.

Downtime at a refinery means action for the Buchen Group. Being a provider of industrial services, Buchen specializes in, among other things, the wide range of cleaning and maintenance work that needs to be carried out at a refinery before it is inspected by the TÜV, the German safety inspection office. The Karlsruhe-based Mineraloelraffinerie Oberrhein GmbH & Co. KG (MIRO), the largest fuel refinery in Germany, shut down all operations in Section 1 of its plant between the middle of February to the beginning of April 2010.

Several hundred plant components, such as containers, towers and heat exchangers as well as thousands of valves and fittings and controlling units had to be tested, emptied, cleaned, checked, repaired and then inspected by the TÜV so that the plant can be run safely and efficiently over the next six years. The preparation work not only began two years ago for those responsible at Miro for organizing this stoppage time to ensure the work was carried out smoothly and effectively. The Buchen Group team also began planning and preparing the work that they were to carry out during this period 12 months beforehand. Everything had to be planned in precise detail – from the use of equipment and the organization of different work sites, to putting together the team and allocating and coordinating the various tasks to arranging accommodation for the workers.

Good preparation work from all those involved was also necessary for one of the highlights of the work to be carried out during the stoppage time. The upper section of the FCC unit, which weighs 320 tonnes and is more than 12 metres high, was detached by Buchen's specialists for cold-cutting techniques using Buchen's automated cold-cutting procedure and a special 1,800-tonne crane. Once on the ground, this section could be safely cleaned and repaired before being replaced once again by the crane to the exact millimetre. The Buchen Group's team, which during the busiest periods involved up to 300 employees, cleaned around 700 pieces of equipment such as heat exchangers, towers, air coolers, containers, filters and reactors between the middle of February and the end of March. Throughout, priority was put on using the specialized equipment and qualified staff as required and in the most efficient manner whilst always fulfilling the highest safety measures to protect both those at the plant and the environment.

A total of 40 high pressure pumps were used which, with a water pressure of between 600 and 1,200 bar, cleaned the plant parts and containers. Once the parts had been

cleaned, a large number of vacuum vehicles moved in to remove the residual products, liquids and sludge from the pits, containers and channels. Pneumatic conveying systems were then used to suck up dry deposits and residual material – no matter whether it was fine dust or fist-sized chunks of coke – via a hose, several dozen metres long, so that it could be disposed of safely. Special areas were set up for the cleaning work and the automated and remote-controlled high-pressure water jet equipment used to clean both the inside and outside of the heat exchangers and other plant parts proved to be highly efficient achieving the very best results. Buchen also coordinated the use of skips, fork-lift trucks and transport vehicles to ensure that all the waste produced during the stoppage time was disposed of in accordance with all regulations. Furthermore, to ensure that there were enough pieces of equipment and tools available, a supply container was set up on site from which



all tools and materials needed could be collected 24/7. During such stoppage times, top priority is always given to work safety. For this reason, one of the many measures included in MIRO's safety concept was to hold regular meetings between the site manager and the safety specialists from all the partner firms to discuss the safety measures. This also included a weekly safety competition which the Buchen Group won once.



The preparation work began two years ago to ensure the stoppage time work was carried out smoothly and effectively.

300 employees cleaned 16 process facilities with 80 different pieces of large-scale equipment during the six weeks of this stoppage period.



Franz Müntefering and REMONDIS managing director Stephan Krings at the REMONDIS cocktail bar at the NRW Party in Berlin.

News in brief

## REMONDIS at the NRW Party in Berlin

On 05 July, the German state of North Rhine-Westphalia celebrated its summer NRW Party together with a large number of members of both the old and new state governments and representatives of all the political parties and North Rhine-Westphalian industrial businesses. As is the case each year, this top-class forum representing the state of NRW was held in the centre of Berlin. Being one of the largest companies in NRW – the company group employs more than 11,000 people in this state alone – REMONDIS set up a cocktail bar

at this year's party. Many decision-makers from the worlds of politics and industry took the opportunity to drink one of the non-alcoholic or classic cocktails at REMONDIS' centrally located stand and hold interesting discussions about the political framework conditions and the future of the water and environmental service branch. Music also accompanied the event and was provided by musicians such as Lena Valaitis and Anke Engelke.

News in brief

## New managing director at REMONDIS Region South

Dr Alexander Rochlitz has been appointed the new managing director of REMONDIS' south region effective from 01 September 2010. Before joining REMONDIS, Dr Rochlitz, who has a PhD in economics, last worked as managing director of Sulo Umwelttechnik and has many years of experience of the water and environmental service branch. He is an expert for waste management logistics and optimizing processes and costs and has also made a name for himself as a Latin America expert. As a result, the 42-year-old travelled to, among other places, Bogotá and Lima in 2009 as head of a delegation on behalf of the German Ministry of Economics. Furthermore, Dr Rochlitz is a member of the finance committee of his home district of Prisdorf and is a member of the foreign trade committee of the East Westphalian Chamber of Commerce, Bielefeld.



Dr Alexander Rochlitz, the new managing director at REMONDIS, Region South



One of the main topics of the IFAT: the shortage of raw materials – there can be no high-tech without recycling!

News in brief

## REMONDIS at the IFAT ENTSORGA

Even before the world's largest exhibition for water, wastewater, waste and recycling has taken place, it has already broken all records with the organizers, Messe München GmbH, announcing that record number of exhibitors have registered to take part in this year's IFAT ENTSORGA. According to the organizers, more than 2,620 companies from 44 countries have signed up for the event, a clear increase to the numbers taking part at the last IFAT held two years ago. The REMONDIS Group will also be presenting its full range of sustainable water and recycling products and

services from 13 to 17 September. One of the main topics being looked at by REMONDIS will be the sustainable supply of raw materials to the industry. Practically all areas of life are being or will be affected by the fact that natural reserves are being depleted. What is needed is a more intensive recovery of such materials. Focus will also be put on REMONDIS' increasing commitment in Central and Eastern Europe during the exhibition. The IFAT ENTSORGA is being held at the exhibition grounds in Munich from 13 to 17 September. REMONDIS' stand will be located in hall B1, stand 227/330.



News in brief

## REMONDIS named the Most Eco-Friendly Company of the Year

The Business Gala Awards Ceremony took place for the third time at the famous castle owned by the Poznanski family in Lodz on 9 June. The competition is organized by the BCC - Business Center Club and aims to promote the business climate in Lodz and honour leading businesses. A total of 33 companies from the region had been nominated for the awards in a number of different categories. The jury awarded REMONDIS Lodz the title 'Most Eco-Friendly Company of the Year'. This award is presented in recognition of the efforts made in the areas of environmental protection and recycling in Lodz and the surrounding areas. REMONDIS Lodz, with its 200 employees, provides the approx. 650,000 people living in the city and 30 neighbouring districts with waste management services and runs a modern sorting plant and two transfer stations. REMONDIS is a high-performance partner for the complex task of man-

aging the municipal waste working for over 22,000 private customers and housing associations as well as more than 5,000 commercial and industrial clients.

Wojciech Podczaski, managing director of REMONDIS Lodz, accepting the award.



People

# Filming at the Lippe Plant



July 2010, the old railway tracks at the Lippe Plant in Lünen are shimmering in the heat. It's 34 degrees centigrade in the shade – and there's very little of that where the filming is taking place – and four men in red REMONDIS working gear are walking through a fountain of water glistening in the sun which is being created by the water cannons owned by the plant's fire brigade. Again and again - until the director finally shouts "cut" and allows them to stop. What looks like a Hollywood production is in fact the work being carried out to make REMONDIS' new company film.



It is an ambitious plan. The aim is to create a sustainable change in the way the public perceives REMONDIS. For most people across the country still associate the name REMONDIS with 'waste management'. The marketing and communications department are continuing to make every effort to inform the media and international experts about the many varied fields of business carried out by the company. However, the hearts of the public need to be reached if it is to succeed in sustainably changing the way the company is viewed and create a positive image. This message can only really be got across on a long-term basis by linking such emotional and attractive images with the company. And this message is: REMONDIS – Always putting people first. This three-minute film, therefore, looks at peo-

ple, their environment and their insatiable appetite for raw materials, energy and clean water. It shows the solutions to such problems, solutions which REMONDIS is already implementing today and which it will continue to consistently implement in the future, too. These solutions are sustainability and consistent recycling. The film was shot at a number of locations in Germany. Priority here was not put on showing modern plants and technical equipment but on finding images that will create a positive image for the company. Moving images were shot, therefore, on the beach at St. Peter Ording, on the island of Rügen, in the Eifel, in Bremerhaven, in the Ruhr region and at the Lippe Plant, the quality of which has nothing to fear from large Hollywood productions – coming soon to a screen near you.

People

## REMONDIS promotes environmental awareness among Polish children

REMONDIS supported a campaign organized by the Arka foundation to promote environmental awareness among children which was held between 31 May and 15 June 2010. This spectacular campaign was held in 10 large cities across



Poland and aimed to show children how to separate waste correctly and make them more familiar with the subject of waste management. The campaign was carried out under the patronage of the Polish Ministry of the Environment, the National Environmental Protection Fund and the city presidents of the towns taking part. Children from a selection of schools put together a so-called eco-puzzle covering a surface area of 7m x 7m in the market places in these towns. At the same time, the foundation held a workshop on separating waste as well as a press conference. By taking part in the campaign, REMONDIS has once again demonstrated its great commitment to protecting the environment in Poland.

## > Impressions



◀ Dmitrij Azavor, Minister of the Environment for the Region of Samara, and Dr Maik Mattheis, managing director of OOO REMONDIS in Russia, signing the contract in Samara.

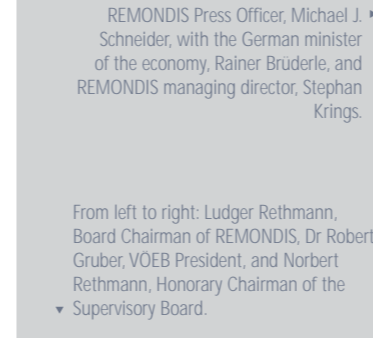
◀ Cem Özdemir, Chairman of the German Bündnis 90/Green party, talking to Günther Neumann from REMONDIS International.



◀ Jutta Kersting, Head of Marketing at REMONDIS, welcomes the interior minister of the state of North Rhine-Westphalia to the REMONDIS stand.



From left to right: Ozan Yalavuz, managing director of REMONDIS Burcu, Torsten Weber, managing director of REMONDIS International, Cuma Ali Kayar, co-partner, Reinhard Lohmann, Board Chairman of RETHMANN AG and Chairman of the REMONDIS supervisory board, Emin Bakavci, managing director of REMONDIS Atik.



From left to right: Ludger Rethmann, Board Chairman of REMONDIS, Dr Robert Gruber, VOEB President, and Norbert Rethmann, Honorary Chairman of the Supervisory Board.



◀ Former NRW Minister President, Jürgen Rüttgers, German Chancellor, Angela Merkel, and REMONDIS managing director, Stephan Krings, at the NRW Party in Berlin



◀ Marek Plywaczyk, REMONDIS Poland, at the Viadukt Job Exchange in Frankfurt/Oder.





2010



2017



2024



2032



2039



2046



2053



2061



2068



2075



2082



2090



2097



2104?

## No Tantalum – No Mobiles.

> Shortage of raw materials



Mobile phones are a part of our everyday life. It is very hard to imagine just one day without mobiles – let alone the whole future. And yet such a situation is not so far off: these marvels of technology need tantalum, just one of many rare materials, and natural reserves of this element are expected to last for another 94 years. And yet the rapid developments in the electronics industry mean that the demand for this material is also increasing all the time. REMONDIS develops processes with which this important raw material can be returned to the production cycle. The highest levels of quality, worldwide. For a secure future. **German Quality.**

Sources: United States Geological Survey (USGS); German Institute for Economic Research (IWF)

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72.5 % of tantalum, which the IWF has classified as particularly critical, is produced in just three countries.