

The REMONDIS Group magazine

REMONDIS AKTUELL

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City, Countryside, Waste

HOW THE CIRCULAR ECONOMY DIFFERS IN URBAN AND RURAL DISTRICTS, HOW THE MARKET IS DIVIDED UP & HOW THE GREEN DEAL CAN SUCCEED ACROSS THE COUNTRY

REMONDIS
AKTUELL

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Creating synergies

FES and Transdev sign a cooperation agreement

A logistical feat

Germany's largest district authority swaps recycling sacks for recycling bins

Denmark: REMONDIS distinguishes itself as a driver of sustainability

New refuse collection vehicles run on natural gas added to fleet

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Dear Readers!

If truth be told, we had all been hoping that we would no longer have to talk about Covid by spring 2021. Who would have thought that we would be spending a second Easter and a second Ramadan with no end to the pandemic in sight? The longer this situation continues, the more difficult it is to maintain the public and personal discipline needed to fight the pandemic. People are weary. They are fed up with having to go from one lockdown to the next with there being no real prospects of life returning to normal. And while infection rates continue to rise no matter what restrictions are put in place, the country's normally reliable federalist system is beginning to reveal some weaknesses. Is it really helpful that the measures taken to tackle this global threat are decided on at federal state level? On the other hand, why should public life grind to a halt in a sparsely populated region with a low two-figure infection rate just because the number of people catching the virus is rising exponentially in an area several hundred kilometres away? There are no simple answers but at least we are fortunate to have almost 27,000 ICU beds here in Germany and are better prepared for the situation than many other countries. However, being forced to focus almost entirely on treating Covid patients, hospitals are finding themselves in a difficult financial position – to say nothing of the huge and constant stress levels that the ICU healthcare professionals are having to cope with. At least the Covid measures have led to a dramatic decline in all other kinds of respiratory illnesses. Fortunately, the strict hygiene measures have meant that we have not had to deal with a flu epidemic this year.

The world tends to view Germans as being both extremely organised and efficient. Some may be reconsidering their opinion, though, looking at the speed – or lack of speed – vaccinations are being rolled out. Which once again brings us back to the subject of using the private sector to deliver essential services. Here, too, many problems could have been prevented right from the start if politicians had taken up the help offered by the private sector to support the vaccination campaign. It can be assumed that an international online ticket seller, one able to sell millions of tickets for rock festivals or worldwide concert tours within just a few hours, would be able to organise online vaccination appointments faster and more efficiently than the overworked local health authorities with their outdated IT systems – and certainly without their website crashing or with-



Ludger Rethmann, REMONDIS Board Chairman

out them having to develop new software first. Such offers, however, have been taken up by just a few individual public health offices and then only belatedly.

Are things running more smoothly in the circular economy? This latest issue of REMONDIS aktuell takes a closer look at the differences between rural districts and cities. It is, above all, the rural district authorities that turn to the private sector for help in providing a number of services – both in the circular economy as well as in the area of water and wastewater management. This approach not only promises to deliver the best services at sensible prices. It also has a major impact on how efficient their sustainability efforts actually are. With local authorities facing both an increased financial burden caused by the pandemic and an urgent need to renovate their infrastructure, it is well worth taking a closer look at the situation. 22% of local councillors believe that their local business tax revenue will be at least 10% lower in 2021 than it was in 2019. The majority of district and town councils, 64% to be precise, are planning to increase their local taxes and/or charges. There is certainly room for them to optimise their business operations in the area of cost-intensive key services, such as waste and water management, by systematically putting these services out to tender, extending their PPP arrangements or founding a new PPP company.

We hope you enjoy reading this latest issue. Stay safe!

Yours

Ludger Rethmann

City, Countryside, Waste

HOW THE CIRCULAR ECONOMY DIFFERS IN URBAN AND RURAL DISTRICTS, HOW THE MARKET IS DIVIDED UP AND HOW THE GREEN DEAL CAN SUCCEED ACROSS THE COUNTRY

The German circular economy is divided up into many different parts – all of which are highly competitive with a large number of small, medium and large-sized private sector firms as well as a multitude of municipal companies all trying to get a piece of the action. This competition ensures that the best possible prices are offered for kerbside collection and recycling services, thus helping to keep fees and charges stable. What's more, the largely free dynamics of this market make sure essential services are guaranteed and can be delivered to all parts of the country. The demands on the German waste management and recycling industry are changing at the moment as a result of the EU's Green Deal, which, for the very first time, specifically names the circular economy as being one of the five most important cornerstones of its plans to curb climate change and conserve natural resources. The different ways some kerbside collection and recycling services are offered in urban and rural areas will have a significant impact on just how efficient the regions' sustainability efforts will be. It is certainly worth taking a more detailed look at the situation.



26 million people
in Germany live in
large cities

The vast majority of the German population, namely a good 56 million people, live in rural districts or small towns.



According to official statistics, there are currently 82,175,684 people living in Germany, with just under 26 million of them residing in large cities. Kerbside collection services delivered to around 23 million or 85% of these urban dwellers are provided by municipal companies, i.e. businesses owned by the city authorities. The private sector serves a mere 15% of this particular market – a market that, due to the very nature of cities, is densely inhabited with a well-developed infrastructure, making kerbside collection and recycling logistics much easier to set up and implement.

The vast majority of the German population, namely a good 56 million people, live in rural districts or small towns such as Cottbus, Kaiserslautern and Schwerin. Just 19 million of these inhabitants are served by public sector companies – a municipal market share of just under 34%. There are two reasons why district authorities more often turn to the private sector for the services they need: firstly, the structural set-up of their districts; secondly, it can be seen as a smart reaction to the economic challenges they have to face. The kerbside collection of residual refuse in both rural areas and in and around small towns involves long journeys and, consequently, much higher logistics costs. It makes little sense for the often cash-strapped local authorities to set up and maintain their own plant capacities, fleet of vehicles and workforce so that they can deliver this particular group of essential services. It is more prudent to work with private sector partners that can deliver a high performance and remain competitive – not least in order to keep the fees and charges local residents have to pay stable. In some cases, local authorities are actually discussing reprivatising essential services or continuing their public private partnerships (PPP), such as the Gifhorn district authorities. A look at council budgets shows why this could be a sensible option.

Rising fees due to exploding costs

Last year, local authorities in Germany with at least 20,000 residents suffered a 4.3% fall in their revenue, not least due to Covid. Their situation would have been a lot worse had they not received extensive financial aid from central and individual state governments. According to a report published by the consultancy firm EY, this financial aid made up, on average, ten percent of their total revenue.

Despite this financial support, however, local government debt levels are expected to have increased considerably in 2020. A representative survey of 300 local authorities reveals that 47% of those taking part said they were expecting a budget deficit for 2020. At the same time, the share of local authorities that succeeded in achieving a budget surplus is said to have fallen from 54% to 6%.

22% of local councillors believe that their local business tax revenue will be at least ten percent lower in 2021 than it was in 2019. As neither central government nor the individual state governments will be able to permanently compensate for these local deficits, councils may be forced to make some unpopular decisions to ease their financial burden. 64% of district and town councils are planning to increase their local taxes and/or charges. This will, above all, affect kerbside collections and street cleaning (around 33% of councils expect to increase these fees), followed by water supply charges (32% of councils) and parking fees (29% of councils). What's more, every one in five local authority is planning to raise property tax and local business tax. Having already greatly reduced their non-essential services, there are very few ways left for councils to save money. Indeed, any financial leeway they do have is getting smaller and smaller in view of the wide range of services and tasks they are obliged to deliver.

Given the fall in revenue caused by the pandemic, it would seem to be a good time for district and town councils to not only think about alternative ways to relieve the pressure on them but also to find new sources of revenue. There is certainly room for them to optimise their business operations in the area of cost-intensive essential services such as waste and water management – either by systematically putting these services out to tender or by founding a new PPP company. These joint ventures take over the whole range of essential services that must be provided in a particular sector and, at the same time, take the pressure off the public purse.

The vast majority of the German population, namely a good 56 million people, do not live in large cities but in rural districts.



47%

of the local authorities taking part said they were expecting a budget deficit for 2020

The public and private sectors & their market share

The development of the market over the last 18 years underlines just how often this potential is wasted. Looking at the overall picture, municipal companies have a firm hold on the circular economy with a market share of just under 50%. According to the latest 'Status Report of the German Circular Economy', the other half is divided up among around 10,700 private sector businesses. While the monopolies commission regularly assesses the market covering the kerbside collection of refuse and recyclables, it does not take the above-mentioned situation into account as it does not include the public sector market share in its evaluations. And yet the share of the municipal businesses in kerbside collections is growing much faster than the market share of all the private sector firms put together. Between 2003 and 2021, it increased by 30.9% as a result of (re)municipalisation measures without any of the services being put out for tender and, consequently, without knowing what prices competitors were charging. During the same period, the share of the three largest private sector companies in the kerbside collection market nosedived by 25.1%. Only small private sector companies, i.e. firms not among the top ten, were able to grow their share by 13.2% during this period. The accusations that are sometimes voiced, therefore, regarding a market concentration among private sector firms can be disregarded.

It is the rural district authorities that are far more likely to make the most of competition to determine the prices for their recycling services. By doing so, they are handling their taxpayers' money far more prudently. With this in mind, it would be useful for those running large cities, such as Berlin, Hamburg, Munich and Stuttgart, to put the services that are needed for their individual boroughs out to tender. If they did this at regular intervals, then they could check whether the costs charged by their own companies, public-law entities and agencies are still in line with the market.



Systematically using the food/garden recycling bin reduces the volume of residual refuse by almost

50%

Great volumes of refuse – great need for action

In 2017, private households in Germany generated 38 million tonnes of refuse. Looking at the overall number of inhabitants, this averages out at 462 kilos per person. The overall amount of refuse collected from the households was divided up into around 13.1 million tonnes of general household refuse (158 kilos per person), 2.5 million tonnes of bulky waste (30 kilos per person), 5 million tonnes of separately collected food and garden refuse (62 kilos per person) and 12.2 million tonnes of separately collected recyclables such as paper and cardboard, glass, light sales packaging, metal, old wood, textiles and other recyclable materials (148 kilos per person).

There is still much untapped potential in each of these individual fractions to curb climate change and conserve natural resources. Special attention should be given here though to recyclable food and garden refuse. A number of advantages are created if this particular type of material is systematically collected; left unused, however, it actually advances climate change. Untreated organic material rots uncontrollably and emits methane, which, depending on how long it is in the atmosphere, is up to 85 times more damaging for the climate than CO₂. On the other hand, this material offers two significant advantages if it is collected separately as it can be used to produce energy and compost. Compost is an indispensable soil substrate that not only supplies nutrients for the agricultural sector but also increases the ability of soil to store water fivefold – a valuable property as the country faces ever longer periods of drought. At the same time, the methane generated in a digester can be captured as biogas and used to produce carbon-neutral energy in combined heat and power units.

Too few households with a food/garden recycling bin

Just under five million tonnes of recyclable organic material are collected across Germany every year. The INFA Institute, however, estimates this figure could be increased to over eight million tonnes. The problem: too much of this valuable material is being thrown away into the residual waste bin. According to the UBA [Federal Environment Agency], almost 40% of the content of general household waste bins is recyclable organic material. Instead of turning it into compost and carbon-neutral biogas, it is being incinerated as outthrow in EfW plants.



To be able to collect as much recyclable organic material as possible, food/garden recycling bins need to be used by households all across the country. Experts, however, estimate that just 55% to 60% of households actually use this bin. This means that just under half of all households are unable to dispose of their kitchen and garden refuse in a separate bin. There are two main reasons for this: firstly, a failure to implement the statutory obligation to have this material collected separately (this became mandatory in 2015) and, secondly, the fact that too many district and town authorities get round this obligation by introducing so-called voluntary food/garden recycling bins rather than mandatory ones.

And so, six years on since it became obligatory to introduce food/garden recycling bins, there are still regions where this law has been implemented poorly and, in some cases, not at all. In 2020, 56 of the 402 district and town councils (i.e. almost one in every seven) did not offer all their residents the opportunity to use a food/garden recycling bin. 15 district authorities do not have a separate collection scheme for recyclable organic materials at all. A further 28 district and town councils have met their obligations by introducing a system whereby local residents must take their recyclable food/garden refuse to their local household recycling centre rather than have their own bin. Being less user friendly, this system results in far fewer recyclable organic materials being collected than is the case with kerbside collections and is certainly not what the legislator had originally intended.

Voluntary bins prevent area-wide collections

Unfortunately, introducing a food/garden recycling bin does not automatically lead to an increase in the volumes of recyclable organic materials collected. This has been confirmed by NABU [German Nature and Biodiversity Conservation Union], which recently analysed the volumes of material being collected each year. This analysis reveals

that even though towns, such as Herne, Solingen, Bochum and Düsseldorf, and rural districts, such as Zwickau, Haveland and Ostprignitz-Ruppin, have introduced the food/garden recycling bin, less than twelve kilos of organic materials are collected there per capita per year. The German average is 60 kilos per capita. It is, therefore, not enough to offer such bins on a voluntary basis. Too few households are making the most of this opportunity. Collection volumes remain too low and a further chance to curb climate change is wasted.

And yet, with a market share of 46.3%, it is the municipal service providers that clearly dominate kerbside collections of recyclable food and garden refuse. Which means they have the leverage needed to increase efforts in their regions to tackle climate change. Many rural districts are already showing how this can be done. Saale district in the German state of Saxony-Anhalt introduced the food/garden recycling bin across the whole of its district in 2017 and made it mandatory. After just twelve months, the per-capita volume of organic refuse collected rose to over 100 kilograms. The same is true for the town of Zweibrücken in the German state of Rhineland-Palatinate where over 115 kilos are being collected per person today. A hoped-for side-effect of this decision has been that volumes of residual waste have fallen by almost 50%, reducing the costs of individual households with their own food/garden recycling bin. The district of Coesfeld and other rural district authorities have also achieved excellent organic refuse collection results and are recycling this material using state-of-the-art technologies.

If Germany wishes to achieve its climate goals then it would be wise for local authorities to orient themselves towards these best practice examples – where rural and town districts have already met their obligations and introduced food/garden recycling bins. The private sector is happy to help them find solutions for those areas where introducing such a system might pose a number of logistical and economic challenges.



Untreated organic material rots uncontrollably and emits methane, which can be up to 85 times more damaging for the climate than CO₂



Everyone's talking about synergies – we're creating them

FES AND TRANSDEV SIGN A COOPERATION AGREEMENT

FES Frankfurter Entsorgungs- und Service GmbH and Transdev Rhein-Main GmbH have created a number of synergies uniting the worlds of the circular economy and public transport. REMONDIS is involved in both companies – either directly as a shareholder or indirectly via the RETHMANN Group. In December 2020, the Transdev Group started operating 13 of its Alpina electric buses from FES' business premises in the Frankfurt district of Heddernheim. The electricity needed to power the buses is being provided by Frankfurt's EfW (energy from waste) plant. But that's not all: last December, the two partners also concluded a cooperation agreement covering the maintenance, repair and servicing of 150 buses.

This type of collaboration is the first of its kind in Germany and was officially presented to the public in the presence of an undersecretary of the Federal Ministry for the Environment at the beginning of March 2021. Klaus Oesterling, who heads Frankfurt's transport department, called it a "future-oriented cooperation between mobility and the circular economy". His fellow councillor and head of the city's environmental department, Rosemarie Heilig, said she believed this was "clear confirmation that the city is switching over to a climate-friendly transport system."

Moreover, all the bus routes go past the plant so that the buses do not have to make a detour to recharge their batteries. A win-win situation for the environment, Frankfurt's residents and the companies involved in the project. "Working closely with the Transdev Group and a whole number of external service providers, our e-mobility and charging station experts succeeded in setting up the bus charging infrastructure in less than a year. A fantastic performance," commented FES managing director Dirk Remmert.

The electricity used to charge the buses' batteries is produced by the EfW plant at the same time as it incinerates household and commercial refuse. With an estimated 50% being biogenic material, this electricity is, for the most part, carbon-free.



The international Transdev Group – in which the RETHMANN Group (REMONDIS' parent company) owns a 34% share – is, together with its subsidiary Transdev GmbH, the largest privately owned public transport operator in Germany. Transdev's subsidiaries operate bus routes in a number of German cities including Frankfurt, Offenbach and Bad Homburg as well as around Frankfurt Airport



"Working closely with the Transdev Group and a whole number of external service providers, our e-mobility and charging station experts succeeded in setting up the bus charging infrastructure in less than a year. A fantastic performance."

Dirk Remmert, FES Managing Director



29 of the 406 buses in Frankfurt are currently run on electricity. 13 of these buses (operated by Transdev Rhine-Main) get the electricity they need for their batteries from FES. They cover the metrobus line 60 and connect the districts of Rödelheim, Praunheim, Niederursel, Heddernheim and Eschersheim. An estimated 1.2 million kilowatt hours of electricity is needed every year to keep them running. Five charging stations have been set up, each with two charging points. One vehicle can be charged at a station at any one time. As soon as its battery is full, the adjacent charging point can be used. A maximum 3½ hours are needed to fully charge a bus's battery and all the vehicles can be recharged at all the charging points. Transdev Rhine-Main's managing director Heiko Schütte has calculated that the buses can cover up to 300 kilometres on a full battery.

This EV charging infrastructure is to be extended over the next few months. A further four stations (each with three charging points) are due to be installed as FES is planning to add electric refuse collection vehicles to its fleet. The company is expecting to get its first truck, a retrofit all-electric vehicle, in the summer. Financed with the help of a €2.5m grant from the Federal Department of Transport, a further five or six collection vehicles will be delivered to FES over the next two years. Added together, they will require an additional 500,000 kilowatt hours per year.

The direction the company is heading in is clear: its Heddernheim premises is to become a hub for clean and climate-friendly mobility. At the same time, this project also underlines the elementary significance of EfW plants as a means to solve future challenges. During the presentation of the electric buses, Rosemarie Heilig commented: "In the future, we will be seeing zero-emission fully electric buses and refuse collection vehicles travelling in and out of Frankfurt's EfW plant, powered by the electricity generated from incinerating our residents' household waste. I really can't think of a better use for this material."

This synergy has been perfectly rounded off – from a business point of view – by the maintenance, repair and servicing agreement signed between the two companies in December 2020: FES has a workshop at the same site where its 50-strong team is responsible for repairing and servicing municipal vehicles – the largest such workshop in the German state of Hessen. A service team of six employees has now been set up for the buses. It is their task to ensure that Transdev Rhine-Main's 150 Citaro, Ebusco and Solaris buses run as they should so that they can provide a reliable service.



As a result, Transdev has been able to give up its old workshop premises located in the east of the city. What's more, the transport specialists also moved into new offices in Heddernheim with a new control centre, conference room and staff room last autumn. Which means that the refuse collection vehicles and buses will also be managed from the same place in Frankfurt. Our partners in the same building, right next door to each other – uniting two parts that belong together.



(from left to right) Dirk Remmert, Uwe Klein, FES Workshop Manager, Andreas Sattler, an engineer in the new 'Bus' work group, Pascal Wunderlich, Project Manager, and Heiko Schütte



FES Frankfurter Entsorgungs- und Service GmbH is REMONDIS' longest-running public private partnership (founded in 1998). This joint venture with the City of Frankfurt am Main (1,900 employees; turnover of €247m in 2019) was extended for a further 20 years in 2020



A smart collaboration in East Westphalia-Lippe

The cooperation work between REMONDIS and Transdev in the region of East Westphalia-Lippe is proving to be just as successful. Having opened up a number of new businesses in Vlotho, Bielefeld and Dörentrup over the last two years, REMONDIS is now making the most of its sister company's strong regional presence to grow its new brand REMONDIS OWL GmbH. With Transdev's vehicles being so visible, they provide a suitable platform for the company to present itself as a qualified partner for all recycling and refuse collection matters to both the general public and commercial

businesses. "I'm confident that we will find a number of other areas where we'll be able to combine our transport and circular economy activities," commented REMONDIS managing director Thorsten Feldt. This was confirmed by Christian Kleinenhammann, manager of the west region at Transdev, who said: "We wish to use, optimise and extend the whole of the Group's expertise, networks and resources in this economically strong and important region."

Martin Becker-Rethmann joins the Transdev Group's board

Martin Becker-Rethmann, who had previously worked for the REMONDIS Group, took up his position as a member of the Transdev Group's executive committee on 15 February 2021. He is now responsible for the newly established

"Zone Germany" and will be reporting to Thierry Mallet, Chair of the international Transdev Group.

As a result, Becker-Rethmann has also become Chair of the supervisory board of the German Transdev GmbH and will be working closely with the executive management board to grow the business across Germany.

"Thanks to its comprehensive and tried and tested mobility concepts, Transdev is making a significant contribution towards the "mobility" megatrend. Working together with the management team, I would like to strengthen and extend Transdev's position as THE mobility provider in Germany. We will, in particular, be looking at quickly implementing the Group's decentralisation strategy as well as at advancing the intensive collaboration work with local authorities and clients in the regions and using all of the stakeholders' established networks to benefit the company," Martin Becker-Rethmann explained.

Martin Becker-Rethmann,
Member of the Transdev Group's Executive Committee





No borders for WEEE recycling

A NEW FRIDGE/FREEZER RECYCLING FACILITY AT THE LIPPE PLANT –
SMALL ELECTRICAL DEVICES TO BE RECYCLED IN EINDHOVEN

REMONDIS Electrorecycling GmbH is building a new facility at the Lippe Plant in Lünen that will be dedicated to dismantling cooling appliances. The company currently operates three WEEE dismantling centres in Germany – at its sites in Lünen, Berlin and Buseck. Recycling discarded cooling appliances is one of REMONDIS Electrorecycling's core areas of expertise. With its present facility in Lünen having been in operation for quite a while now, the decision was made recently to both modernise and extend it. By doing so, the Lippe Plant will become one of most modern and most important plants for dismantling and recycling fridges and freezers. The new facility is expected to be commissioned during the third quarter of 2021.

In 2019, the company collected a total of 86,000 tonnes of cooling appliances, around 60% of which were processed in its own facilities. Its dismantling centre in Lünen, which began operations back in 2006, handles approx. 32,000 tonnes of waste electrical and electronic equipment (WEEE) every year. The technology being used to dismantle cooling appliances is no longer up to date and is being stretched to its limits. The plant is, therefore, now to be completely modernised. This step will ensure that it remains competitive in the future, that unnecessary truck journeys are avoided and that all statutory requirements regarding the correct removal and disposal of blowing agents, such as CFCs (chlorofluorocarbons) and pentane, are met – all of which will help to curb climate change.

Excellent recycling rates & eco-friendly de-gassing

Once the new facility is up and running, the company will be able to fully recycle a much larger number of appliances using state-of-the-art technology. What's more, it can expect a growing volume of input material thanks to the Lippe Plant and the infrastructure it offers. Located on the edge of the Ruhr region and within the catchment area of the Netherlands, the Lippe Plant – Europe's largest industrial recycling centre – receives a continuous flow of materials that are transformed into high quality recycled raw materials using climate-friendly technologies.

A new plastics processing plant was also built next to REMONDIS Electrorecycling's dismantling centre in Lünen in 2019 – reducing transport requirements and enabling the very most to be made of the raw materials recovered from the cooling appliances. With a capacity of ca. 20,000 tonnes a year, the new fridge/freezer recycling plant in Lünen will be the most modern of its kind in Europe and will achieve excellent recovery and recycling rates. One special feature of the facility will be a novel special matrix to degas the appliances using mixing units – a particularly environmentally friendly method. This technology has already been installed at REMONDIS' dismantling centre in the French city of Troyes and both WEEE experts and inspectors have been delighted with the high volumes of materials that can be recovered for reuse. This modernisation measure reflects the ongoing further development work being carried out at REMONDIS' Lippe Plant, underlining its status as the biggest and most modern industrial recycling centre in Europe.

No empty runs between Eindhoven and Lünen

The modernisation of the WEEE recycling plant in Lünen will also see its dismantling line for small electronic appliances being taken apart so that it can be installed at the company's new facility in Eindhoven. Lorries transporting such small appliances to Eindhoven will bring back fridges and freezers collected via the Dutch Wecycle scheme to Lünen to keep transport requirements as low as possible.

REMONDIS®
WORKING FOR THE FUTURE

The small appliance recycling operations will be relocated to Eindhoven when the fridge/freezer dismantling plant in Lünen is modernised and extended



A logistical feat

GERMANY'S LARGEST DISTRICT AUTHORITY SWAPS RECYCLING SACKS FOR RECYCLING BINS



Replacing recycling sacks with recycling bins across a rural district as large as the Mecklenburg Lake District [Mecklenburgische Seenplatte] while still carrying out normal refuse collection operations – this is certainly a considerable logistical challenge. REMONDIS Seenplatte Logistik GmbH has now successfully completed this task. Previously responsible for collecting the recycling sacks in this tourist region north of Berlin, the company was once again awarded a contract for this area for 2021 to 2023 following the latest tender process. This time, their new assignment has involved an additional undertaking: changing the collection system over to recycling bins.

The district authorities are, therefore, promoting the current trend towards recycling bins – a development that is primarily being supported by environmental politicians as they believe this will improve collection rates and, consequently, recycling rates. Recycling bins also help to give streets a more orderly appearance, especially in a unique natural landscape such as the Mecklenburg Lake District. All too often, rural regions see their recycling sacks being blown around by the wind or ripped open by wild animals. With the district generating around 10,500 tonnes of old packaging a year, the whole region – and the many tourists travelling there from across the whole of Germany – will now benefit from having these materials collected in solid bins.

A tight schedule

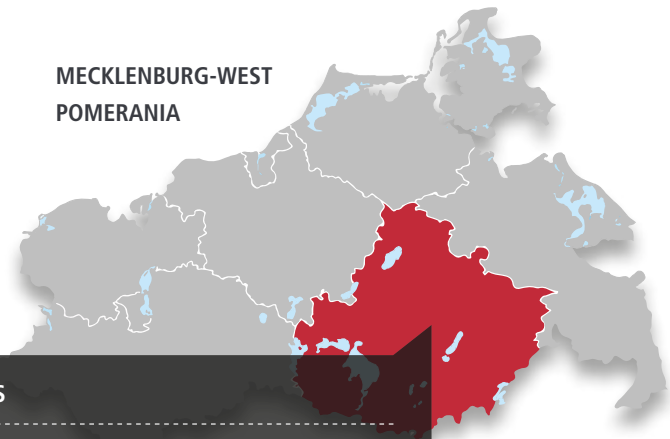
The district authorities and their procurement office set the course for this transformation in May 2020 and awarded the contract to REMONDIS at the beginning of September 2020. Which meant there was little time left to supply all the households with the new bins. Most projects like this allow for a 12-month transition period. The Mecklenburgische Seenplatte district authorities, however, wished the handover of the new bins to have been completed within ten weeks.

The company's first task involved working out how many bins would be needed for each building (according to the number

With the district generating around
10,500t of old packaging
a year, the whole region will now benefit from
having these materials collected in solid bins



MECKLENBURG-WEST POMERANIA



A FEW FACTS & FIGURES

With the Mecklenburg Lake District covering almost 5,500 square metres, the district authorities are responsible for the largest administrative district by surface area in Germany. A popular tourist destination, this region is home to 250,000+ inhabitants, the majority of whom live in and around the towns of Neubrandenburg, Neustrelitz, Demmin and Waren. With a population density of below 50 inhabitants per square metre, the district is one of the most sparsely populated regions in Germany.

of households and residents living in them) and then getting hold of them so that they could be distributed across the region. They also had to decide which size of bin (120, 240 or 1,100 litre bin) should be handed out. REMONDIS used both the large amount of data at its disposal and its extensive experience of such matters to allocate the bins. The amount of residual waste generated by the different households was also factored in to help them decide which size should be distributed. With the time frame being so tight, it was simply not possible to ask each household what kind of bin they would like to have.

Florian Roesberg, managing director of REMONDIS Seenplatte Logistik GmbH, is extremely pleased with the way this task was completed: "We received a comparatively low number of complaints and requests for a different sized bin – confirmation, I believe, that we took the right approach."

Having a strong network helps

REMONDIS called on external service providers from its network to support them in this logistical endeavour. The first 70,000 smaller 120 and 240 litre bins were provided by the company Craemer and delivered to the private households within a very short period of time. REMONDIS itself supplied the large wheelie bins required by housing complexes and recycling collection points. It is practically impossible to carry out such a task without there being complaints.

The few that did come in were processed quickly by REMONDIS to ensure both the local residents and the district authorities were pleased with the results. With this

"We received a comparatively low number of complaints and requests for a different sized bin – confirmation, I believe, that we took the right approach."

Florian Roesberg, Managing Director of REMONDIS
Seenplatte Logistik GmbH

work completed by the end of last year according to schedule, old packaging across the district is now being collected every fortnight in recycling bins rather than recycling sacks as planned.

Last year, the company needed 19 vehicles and 39 employees to collect this material stream. This has now increased to 24 vehicles and 44 members of staff. Both the district authorities and REMONDIS have high hopes that this move will improve collection rates. Roesberg continued: "Out-throw material is one of our biggest challenges. Any material that doesn't belong in the bin has to be removed and this is additional work for the downstream sorting and recycling plants. In this age of increasing environmental awareness, we are all being called on to take a closer look at and take greater responsibility for our own actions."

ARN and REMONDIS – a successful partnership

PUBLIC AND PRIVATE SECTOR SHAREHOLDERS TURN ARN INTO AN INNOVATIVE MARKET PLAYER



Gerard van Gorkum was managing director of ARN for almost 20 years and the first person to set up a cooperation in the Dutch waste management sector between the public and private sectors. By combining the local knowledge and skills of the public sector partner with the international market know-how of the private sector recycling firm REMONDIS, the company had everything it needed to react quickly and effectively to any developments in its industry.

The creation of a public private partnership

The waste management sector in the Netherlands underwent a major change in 1995. Local authorities were no longer responsible for making sure refuse was processed within the boundaries of their districts but were permitted to send the materials across the whole of the country for treatment. Moreover, a number of EfW (energy from waste) plants were built to make the market more competitive. One consequence of this development was that many companies – including those in the waste management sector such as ARN – needed to be managed differently. ARN's shareholders drew up a selection of criteria that they felt had to be in place to ensure the company could continue to develop and have a strong future. They examined a variety of possible cooperation options including a public private partnership. The company, which is located right next to the German border, believed it could emulate the success of the public private partnerships in Germany. This type of collaboration has proven to be the most successful and, looking back, Gerard van Gorkum still very much agrees with the decisions made back then.

Recognising interests and qualities

"For such a business to succeed, I believe it's very important for the company's management team and its shareholders to really understand each other's interests and for their work to be based on personal qualities. The collaboration with REMONDIS always took this into account. REMONDIS has a decentralised structure which gives the management team a great deal of freedom to make their own decisions and, consequently, to orient their business to local developments. As a result, it can make the very most of the knowledge and expertise of an international market player while still being able to respond to local market issues. As far as the cooperation work was involved, both partners first took a close look at where each other's qualities lay and how these could best be used to develop ARN. REMONDIS is a family-run company that has a long-term vision for its business. Its sense of responsibility to make sure it achieves this vision is firmly rooted in its DNA. The combination of running an international operation and being a family-owned firm is unique on the market and makes REMONDIS the ideal partner for a public private partnership," explained Gerard van Gorkum.

"The combination of running an international operation and being a family-owned firm is unique on the market and makes REMONDIS the ideal partner for a public private partnership."

Gerard van Gorkum, former managing director of ARN

Strategic advantages

“Thanks to REMONDIS’ excellent market know-how and specialist expertise, we were able to analyse the market developments in depth and determine what, for example, ARN’s particular strengths were. Our incineration plant proved to be just right for treating both specific and more complex types of non-recyclable materials – something that had been missing on the market. We decided, therefore, to focus our activities on this area of business. As a result, our EfW plant has always been run to full capacity despite the fluctuations in the volumes of different material streams.

This strategic decision has meant that ARN is a financially healthy business and has been able to help its public sector owners to achieve their sustainability goals. We have, for example, collaborated with a number of partners to set up a district heat network to heat private homes and offices in the region. This use of sustainable energy has cut local consumption of natural gas. What’s more, we’ve succeeded in developing an innovative facility for sustainably recycling nappies. This step has considerably reduced the amount of residual waste collected in the region. Furthermore, we have set up a digester and composting plant for processing vegetable, fruit and garden refuse. It transforms the materials into compost, i.e. into a valuable raw material for both agricultural and gardening businesses. The biogas produced

by the plant is processed until it’s of the same quality as natural gas and then used to fuel our local public transport vehicles. Any CO₂ created by this process is captured and used in the neighbouring greenhouses. We were grateful for REMONDIS’ know-how in all these projects,” Gerard van Gorkum continued.

A robust future

Looking back, Gerard van Gorkum believes that ARN would not be in the position it is in today without this successful collaboration. ARN is a stable organisation with loyal and committed employees and has a strong position – both as a recycling firm in the Netherlands and as a driver of sustainability in the region. “Long discussions were needed back then to convince everyone that this was the right move to make but they were certainly worth their while. Together with REMONDIS, ARN has become an important and innovative recycling business in the Netherlands and is more than ready for the future,” said Gerard van Gorkum summing up the situation.

ARN is a Dutch recycling business based in Nijmegen. Each year, ARN’s EfW plant feeds around 150,000 MWh of electricity into the public grid and delivers over 800 terajoules of heat to external customers. It has also been supplying two new residential areas, Waalsprong and Waalfront, with heat since 2015



Gerard van Gorkum,
former managing director of ARN



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REMONDIS Australia supports recycling initiative in West Australia

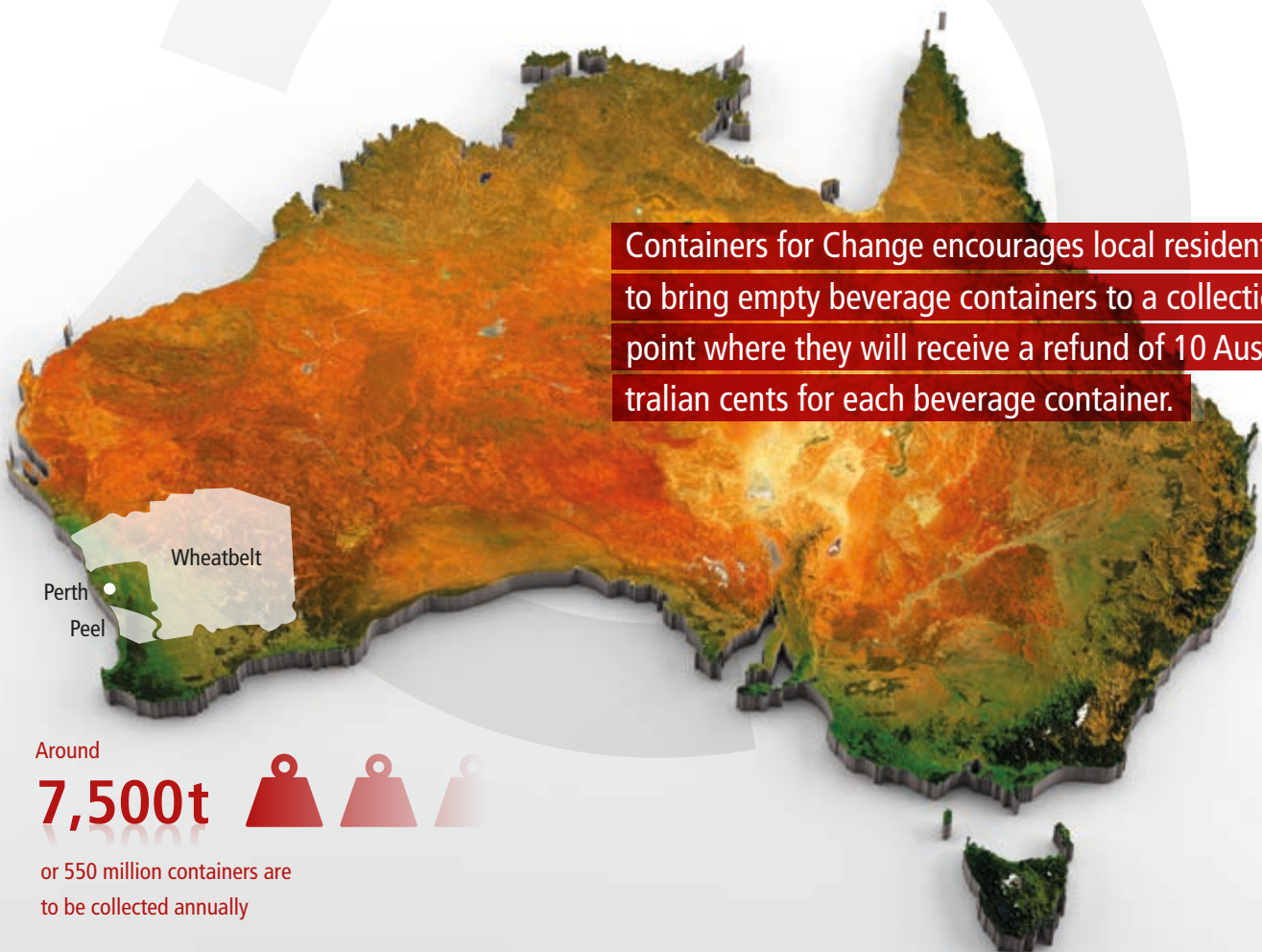
WEST AUSTRALIA LAUNCHES NEW COLLECTION SYSTEM FOR BEVERAGE CONTAINERS

Thanks to a new contract with REMONDIS, the municipalities of the state of Western Australia will be cleaner and more environmentally friendly. The system coordinator "WA Return Recycle Renew" commissioned REMONDIS Australia to collect and recycle plastic and tinfoil beverage containers in the Perth, Peel and Wheatbelt regions for an initial period of five years.

As part of the "Containers for Change" program, West Australia's newly introduced container deposit system, REMONDIS will help to recover and process more valuable materials and, by doing so, intensify recycling. Around

7,500 tons or 550 million containers are to be collected annually. REMONDIS covers around 85 percent of the state's households and will be responsible for approximately 70 percent of the total volume of the scheme.

Containers for Change encourages local residents to bring empty beverage containers to a collection point where they will receive a refund of 10 Australian cents for each beverage container.





Recycling rate is to be doubled

Containers for Change encourages local residents to bring empty beverage containers to a collection point where they will receive a refund of 10 Australian cents for each beverage container. Collection takes place at collection points or where return machines are in place. Until now, the beverage containers were simply thrown away or disposed of with household waste. The goal of Containers for Change is to double the recycling rate.

The highlight: After a one-time registration, participants can get an ID number to collect their credit on. They can then decide to transfer the money earned from the deposited containers to a bank account, to receive it in cash or to donate it to a good cause. Hundreds of charitable institutions that can be supported have registered for this purpose. The system is financed from the proceeds of the sale of these recyclable materials.

Containers for Change started in Western Australia on October 1, 2020. The container deposit system is an initiative that was launched in 1977 in South Australia. Only two Australian states, Victoria and Tasmania remain without container deposit schemes with both already having corresponding plans. An interesting variant of promoting recycling has thus established itself in Australia.

Tim Cusack, CEO WARRRL, Chris Gusenzow, General Manager REMONDIS Western Australia (from left to right)

New sorting plant in Queensland: latest technology improves recycling rate

Sorting technology is key to extracting as much valuable material as possible from refuse streams. After all, accurate sorting vastly improves the quality of recycled raw materials and yields resources that live up to customers' expectations.

In an effort to do just this, REMONDIS has incorporated a new sorting process into the Rocklea Resource Recovery Facility near Brisbane, Queensland, Australia. This technology pairs a finger screen and magnets with a sorting line and picking cabin to recover plastic, cardboard, timber and ferrous scrap from commercial and industrial refuse arriving at the site. The new system can process up to 50 tons of material per hour and is operated by 7 employees. In total, REMONDIS processes over 130,000 tons of recyclables at its Rocklea Transfer Station.

The Rocklea Resource Recovery Facility is helping to increase the recycling rate for commercial and industrial refuse in Queensland as part of a government strategy that includes more ambitious landfill diversion and recycling targets. The location also plays an important role in Australia's efforts to be self-sufficient in recycled raw materials as it prepares to ban refuse exports in the coming years.



Old paper: quality management for better recyclability

THE CHANGING COMPOSITION OF PAPER AND CARDBOARD DEMANDS HIGHER COLLECTION AND SORTING STANDARDS

“Old paper is getting browner and browner” – what may sound like a riddle is in fact a description of a significant trend currently being experienced by those collecting old paper and cardboard. While glossy catalogues – such as the OTTO and the IKEA catalogues – are increasingly falling victim to digitisation, the boom in online sales is causing the volumes of old cardboard to rocket. As a result, businesses recycling old paper are facing a new challenge: this increased share of mixed packaging is changing the composition of the secondary raw materials. REMONDIS Trade and Sales GmbH, the Group’s specialist for old paper, believes that quality management is the solution to this problem and, as the first link in the supply chain, has set up its own quality team. The paper industry, which purchases the recycled raw materials, has welcomed this move. The result: the company’s role is changing from simply being a supplier to being a future-oriented partner for the industry.

Current developments in both online retailing and the packaging industry are impacting on paper recycling businesses. Their response: to invest in even better quality management systems



Securing consistent quality levels

For the last two years, a newly set-up REMONDIS Trade and Sales unit has been taking a closer look at the paper being discarded in paper bins so that the company can provide its customers in the paper industry with a supply of secondary raw materials that are always of the same high quality. The team has, therefore, been systematically checking the composition of the paper collected from both households and key customers as well as the amount of outthrow, i.e. materials that do not belong in the bin. At the same time, plant operators and truck drivers are being given the training they need so that it is easier for them to identify and remove outthrow.



Jannis Lammerskitten and Michael Cox both work in quality assurance at REMONDIS Trade and Sales GmbH. They keep a trained eye on events to ensure old paper can be transformed into a high quality recycled raw material



The team, however, does not have to take the compacted bales of mixed materials apart to check the quality. A measuring device – the paper bale sensor – is able to do this work for them. Other methods are used to determine quality levels as well. Gravimetric measurements, for example, are taken to examine category 1.11 newsprint, as the recycled material delivered for this type of paper normally arrives as a bulk material.

If the findings of these measurements reveal that the amount of outthrow in the paper and cardboard is too high in a certain region, then the team contacts the local REMONDIS branch there to look for ways to collaborate with the respective local authorities to improve the quality of their paper collections. The most important factor here, however, is training REMONDIS' own employees. Which is why Jannis Lammerskitten from REMONDIS Trade and Sales' quality assurance team has been promoting their courses: "We ourselves can influence the quality of the collected materials. Each member of staff who is aware of this issue is an added bonus."

Best Practice

There is, however, potential to improve quality at the other end of the recycling chain as well. The customers from the paper industry have different requirements regarding the purity levels of the secondary raw materials. The quality management team is, therefore, collaborating with them to come up with a mutual solution regarding outthrow materials as well as to make the process more transparent. The team sees itself as being a facilitator of best practice solutions based on their wealth of industry experience.

This also applies to the new, innovative types of packaging such as functional barrier paper, water-resistant paper and thermopaper. Recyclers must first work out whether these materials can actually be recycled. At the end of the day, looking at the technical feasibility of recycling these types of paper, the question is: is this old paper or residual waste?

If the changing composition of old paper becomes a permanent issue, then this development will not only create a challenge for the companies involved. It will also put the whole successful recycling process at risk. As the volumes of high quality paper collected decrease so, too, do the number of recycling options available to the companies. Michael Cox from REMONDIS Trade and Sales' quality assurance team stressed: "Thanks to our in-depth know-how that we have gathered over the years, the paper industry sees us as being an equal partner – a partner, who can help them find suitable solutions. This means we can push forward ideas that will help ensure paper can continue to be effectively recycled."

"We ourselves can influence the quality of the collected materials. Each member of staff who is aware of this issue is an added bonus."

Jannis Lammerskitten, a member of REMONDIS Trade and Sales' quality assurance team

Ahoy there! Serving Hamburg's seagoing ships

REMONDIS' SUBSIDIARY HAMBURGER SCHIFFSENTSORGER WITH AN UPDATED RANGE OF SPECIALIST SERVICES

REMONDIS' subsidiary, Hamburger Schiffsentsorger (HS), has a rather unusual fleet of refuse collection vehicles. Besides its standard four-wheeled trucks, the company also operates three ships and a pontoon boat. HS is part of the Hamburg-based recycling business, Ascalia Kreislaufwirtschaft, and specialises in managing all types of wastes generated by ocean-going ships. And there are very few industries around that have as many waste management requirements as ocean shipping.

There have been some radical changes made to the way marine waste is dealt with over the last few decades. Whereas unwanted materials tended to find their way overboard in the past, it is now mandatory for a ship's crew to keep precise records about all the materials found on board. The rules and regulations that must be followed are set out in the International Convention for the Prevention of Pollution from Ships, generally referred to as MARPOL. This stipulates that ships must dispose of their waste at the ports – something that plays a key role in ensuring these standards are met. The attractive regulations put in place for shipping companies regarding waste disposal costs have also helped to reduce marine pollution caused by ships.

A wide range of services

HS's portfolio covers a whole range of features and offerings. Firstly, it has all the equipment needed to handle the liquid and semi-liquid wastes caused by water entering the ship while it is in operation. HS's specialist ships take over these slops, which include so-called bilge waters and various types of sludge and oily mixtures. These substances are transported to a specialist Ascalia facility where they are separated from each other. The majority of the recovered materials are then recycled and reused.

The Port of Hamburg is steeped in tradition and is the largest port for seagoing vessels in Germany. Every year, around 8,000 ships enter the port, which has just under 300 berths and a quay stretching 43 kilometres in all. It has four state-of-the-art container terminals, three cruise ship terminals and around 50 facilities specialising in handling all kinds of ro-ro, break-bulk and bulk cargoes. In 2020, the port handled 126.3 million tonnes of cargo, which included 8.5 million standard containers. This all makes Hamburg the 3rd largest container port in Europe the 18th largest in the world.



To find out more, go to
hs-entsorgung.de

A special vehicle equipped with a crane is used to remove solid waste packed in big bags from a cargo ship so it can be processed on dry land



Furthermore, HS provides the ships with a variety of standardised bins and containers. These are available in various sizes and can be used to store the ships' different types of waste while they are out at sea. When they reach the port, the company then simply exchanges the full bins with empty ones. They are suitable, for example, for collecting kitchen waste as well as waste generated by the passengers and crew. A further service delivered by HS involves using pumps to remove the sewage and wastewater from the ships and then ensure that these materials are sent on for proper treatment – a service that is particularly important for cruise ships. HS's portfolio, of course, also covers the drawing up of the relevant waste acceptance certificates that must be signed by the captain or a member of the crew.



Technically, this is certainly a challenge as this means that recycling companies have fewer attractive material groups to recycle. This can be evened out with better technical solutions and higher material recovery rates. The progress made by one industry, therefore, is driving innovations in the other – and Hamburg's fascinating port is getting cleaner and cleaner.

New challenges

For years now, ships have been generating less and less waste. And, according to HS's managing director Jörg Scheurer, this is a sign of a growing environmental awareness among the crews: "On the one hand, the cruise industry has just discovered the concept of waste avoidance. On the other, shipping companies are finding technical solutions that, for example, reduce the amount of oily wastes."



In 2020, the port handled 126.3 million tonnes of cargo, which included

8.5 million
standard containers



Denmark: REMONDIS distinguishes itself as a driver of sustainability

NEW REFUSE COLLECTION VEHICLES RUN ON NATURAL GAS TO BE ADDED TO FLEET



A well-functioning circular economy is an indispensable part of sustainable business. To achieve the best possible carbon footprint, therefore, circular economy firms must also consider the sustainability of their kerbside collection activities. REMONDIS sees itself as being both responsible and proactive in this area. It certainly considers logistics as yet another way to grow sustainability and, wherever possible, is looking at using vehicles run on alternative, more climate-friendly fuels. This also applies to the Danish capital region in and around Copenhagen.

Extended partnership with ARC

REMONDIS is now purchasing a total of eight natural gas refuse collection vehicles there as part of its partnership with ARC (Amager Resource Center). Each truck will be able to cover a distance of approx. 400,000 kilometres every year.

ARC is a Danish recycling company owned by the municipalities of Dragør, Frederiksberg, Hvidovre, Copenhagen and Tårnby. Among other things, it is responsible for operating nine recycling centres in the region. The company is known far beyond Denmark as the operator of Amager Bakke, a waste-to-energy plant with an artificial ski slope on its roof.

REMONDIS will continue to collect and transport recyclable materials, such as packaging and paper, on behalf of ARC for many more years. This contract also includes garden material and green cuttings. The collaboration between REMONDIS and ARC, which began four years ago, has, therefore, not only been extended but also includes additional responsibilities. Having been put out to tender and awarded to REMONDIS, this contract is one of the largest of its kind in Denmark. The affiliated communities, which are





“What was important for this contract was that the municipality wished to have a partner who could help further develop its collection and recycling processes and, by doing so, help it to reach its ambitious recycling goals.”

Søren Eriksen, REMONDIS Managing Director



Frederiksberg, located in the west of the Danish capital Copenhagen and completely enclosed by the urban area of its bigger sister, has just over 100,000 inhabitants.

“What was important for this contract was that the municipality wished to have a partner who could help further develop its collection and recycling processes and, by doing so, help it to reach its ambitious recycling goals,” commented REMONDIS Managing Director Søren Eriksen. He continued: “This makes REMONDIS the perfect partner – especially in view of its international network.”

home to around 800,000 inhabitants in all, operate a delivery system for which around 23,000 containers were set up.

Glass collection to continue in Frederiksberg

REMONDIS has been responsible for collecting used glass in the city of Frederiksberg for five years. Following the latest tender process organised by the utilities company Frederiksberg Forsyning, REMONDIS has once again been awarded the contract for the next few years.

Both successful contracts show that REMONDIS is well set to position itself as a driver of the recycling industry. This is all the more true as Denmark’s politicians are now paving the way for there to be more effective cooperation work between private and public sector companies operating in the circular economy.



REMONDIS has been responsible for collecting used glass in the city of Frederiksberg for five years. It has now been awarded a new contract

REMONDIS goes live

E-LEARNING SYSTEM AND MOBILE TV STUDIO OFFER ATTRACTIVE TRAINING OPPORTUNITIES

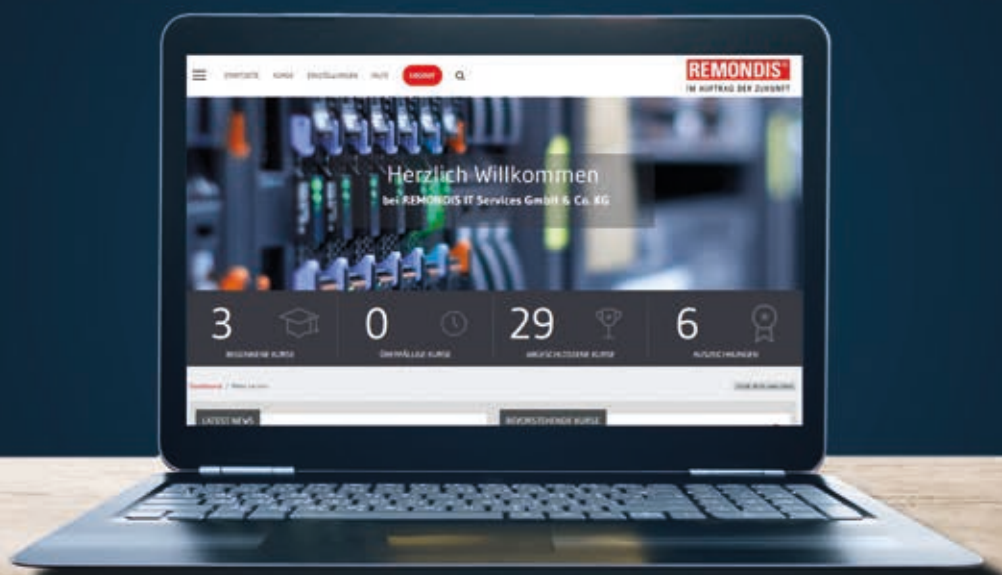
REMONDIS began setting up a Learning Management System (LMS) for its workforce back in 2017. With the course contents able to be accessed anywhere – even from home – e-learning is a particularly attractive option for a company with around 800 business locations worldwide and many employees working in the field.

At present, approx. 9,000 of the Group's employees have registered to use the system and, in 2020, they successfully completed around 17,500 courses. With strict Covid restrictions in place, this system has played an essential role in ensuring that practically all of REMONDIS' divisions have been able to continue to offer their staff further training courses. A new, mobile TV studio has provided trainers and other staff groups with a further opportunity to teach content. It has also helped to make the training opportunities even more attractive.

An on-demand studio

The company has been using mastersolution's mobile TV studio since 2020. Packed securely in a transport box, it

can, in principle, be used wherever it is needed. It has already been deployed for staff meetings so that employees working in the field or at more remote locations can easily be reached. Other areas of use include presentations given for further training courses and sales seminars as well as for customers, who are unable to be visited at the moment. The sound and picture provide that human touch that is all too often lacking during virtual meetings. It is even possible to film events live. One of the biggest advantages of this studio system is its professional technology that enables pictures, sound and inserts (for example of slides) to be shown in TV quality – thus creating a highly professional effect. It also enables employees to have the Lippe Plant as their backdrop during online meetings when they are working from home.





115 courses are currently being offered on the e-learning platform; these include purely web-based teaching content as well as courses involving a mixture of digital learning and classroom attendance

At the heart of this system is a special, state-of-the-art laptop containing professional software that not only enables sound and image to be simultaneously mixed with, for example, different backdrops but also for the results to be checked and corrected immediately. The equipment includes, of course, a camera, several microphones, lighting, a teleprompter and a green screen that makes it possible for the backdrop to depict other backgrounds or graphics. REMONDIS is offering the mobile TV studio with a coach to encourage people with little video experience to try it out.



Learning Management System continues to grow

There are, of course, a multitude of interfaces between this new studio and REMONDIS' Learning Management System as they complement each other perfectly. The studio recordings can be embedded in the LMS. The LMS platform itself provides more than just e-learning as it offers purely web-based teaching content as well as courses that involve a mixture of digital learning and classroom attendance. What's more, the system can also be used to manage courses that only involve in-person events – for example, to send out invites, handle the registration process and issue certificates of attendance.

Around 115 courses are currently being offered via this system – approximately 60% more than just two years ago. Some of these are mandatory instruction courses covering obligatory and sometimes recurring subjects, such as health and safety topics. In such cases, REMONDIS and its subsidiaries must make sure their staff attend the course, document this and be able to provide proof of attendance. The system automatically sends invitations to the members of staff when it is their turn to attend such a course.

The company's traineeship and management training programmes, both of which involve a mixture of face-to-screen and face-to-face learning, are targeted at specific groups of users. The system, however, also focuses on more general courses to enable all employees to enhance their professional and personal skills, such as IT, teamwork and communication skills. Plans are for the staff to be able to use courses from an open portfolio in the future. With technology advancing at such a rapid rate, e-learning is becoming an ever more important teaching method. REMONDIS is driving forward its e-learning programme as it sees it as an efficient way to train and further train its employees as well as to remain competitive and promote lifelong learning. Yvonne Schmidt and Jennifer van Bernum are there to answer any questions REMONDIS employees may have. They are inviting everyone to join in: "Both the mobile TV studio and the learning management platform should pique our employees' curiosity and inspire creativity. They can try out new channels of communication, further hone their skills and make the most of these great opportunities."

Working together with the service provider, mastersolution, a mobile TV studio was able to be created for all kinds of presentations.

Find out more about mastersolution here:



Every little bit helps

REMONDIS' MIXX-TOUR COLLECTS SMALL VOLUMES OF HAZARDOUS WASTE

No matter how small the volume of hazardous waste may be, it must, of course, be disposed of in an environmentally friendly way and in compliance with all rules and regulations; that goes without saying. However, this has been a difficult issue for companies: if they are not allowed to or do not wish to store dangerous substances on their premises, then they must find a legally compliant waste management solution which also includes a collection service. Such services have been hard to come by – some of them only handle specific types of materials and none of them offers a nationwide network. REMONDIS has now successfully closed this gap on the market by launching MIXX-TOUR that involves a specialist fleet of vehicles which will gradually be expanded as demand grows.

"We have tied a few ends together at REMONDIS and can now deliver exactly what is needed."

Michael Micke, Head of the MIXX-Tour division



This problem has now been solved with MIXX-TOUR: this service has been set up by REMONDIS Medison in cooperation with REMONDIS Industrie Service, which is in charge of treating the materials. Thanks to this successful collaboration, MIXX-TOUR can provide the logistics chain needed to enable a wide range of materials – no matter how small the volume – to be picked up from commercial customers at short notice. All substances are transported in compliance with the ADR (i.e. in accordance with the regulations determining the safe transport of dangerous goods) and disposed of in an environmentally compatible way. Proof of this is, of course, provided as well.

MIXX-TOUR

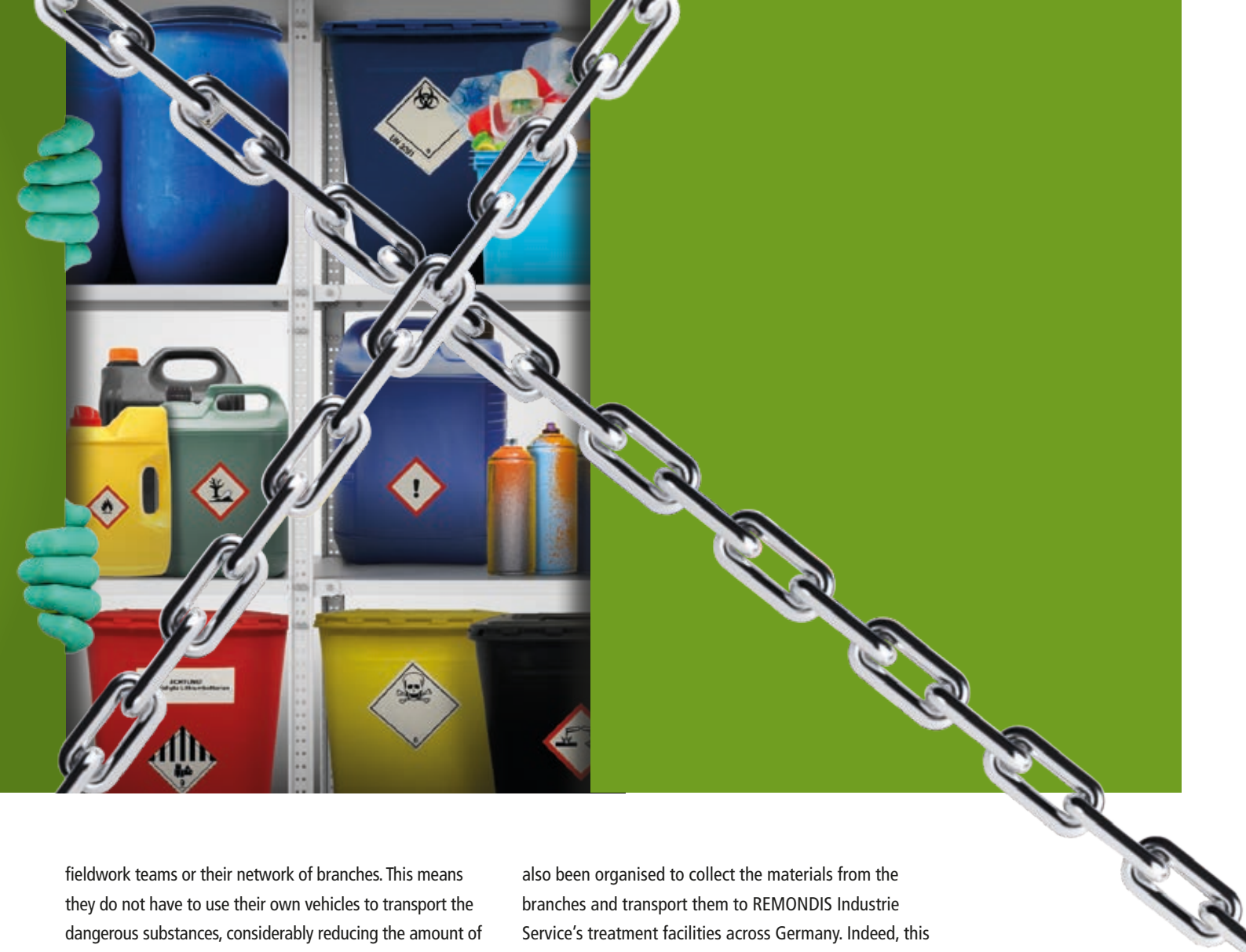
The demand for such a service has been fuelled by the ever stricter requirements being placed on commercial businesses regarding the storage and transport of their hazardous waste. All too often, firms find themselves no longer able to store the materials on site as the costs of fulfilling the statutory requirements are simply too high. This is especially true for firms that have a large number of branches or operate mobile service units. Transporting dangerous substances in a company van can be a problem as the vehicles are generally not properly equipped to do this. Some businesses look at setting up their own in-house logistics chain to store the hazardous waste at a central site so that it can be handed over in one go to a waste management business at a later date. Such plans, however, are often unable to be implemented because of the statutory regulations and restrictions – something that standard logistics providers and parcel delivery firms are also subject to.



mixx-tour.de

Safely collected, safely treated

MIXX-TOUR collects a whole range of different substances. These include old paint and varnish, lithium ion batteries, plastic dust sheets from painter and decorator businesses, aerosol cans, used solvents, old oil, oil-contaminated liquids, filter media, packaging containing dangerous residual contents, WEEE, batteries, fluorescent tubes, medicines, identifiable chemicals and other materials. Besides using the service for individual collections, which can simply be requested by email once an offer has been received, companies also turn to MIXX-TOUR to have a decentralised collection service that enables all hazardous substances to be picked up from their



fieldwork teams or their network of branches. This means they do not have to use their own vehicles to transport the dangerous substances, considerably reducing the amount of red tape they have to deal with.

The MIXX-TOUR's steadily growing fleet can pick up the hazardous materials either as a regular service or on demand. The trucks can be found across Germany so that the company can react quickly to their customers' requirements and wishes. What's more, REMONDIS Medison's other trucks are also available if needed. A small logistical masterpiece has, therefore, been set up to enable MIXX-TOUR to be offered. The local branches serve their customers in their region, systematically providing them with the logistics they need. An additional downstream logistics system has

also been organised to collect the materials from the branches and transport them to REMONDIS Industrie Service's treatment facilities across Germany. Indeed, this part of the logistics network has had to expand considerably in recent months to keep up with demand.

Michael Micke, who is in charge of this new service, commented: "While the demand for such a user-friendly service is perhaps not new, we have now succeeded in coming up with a smart solution that works for both our customers and us. We have tied a few ends together at REMONDIS and can now deliver exactly what is needed."

The MIXX-TOUR team can collect, for example, old varnish, lithium ion batteries, aerosol cans, used solvents, old oil, packaging containing dangerous residual contents, WEEE, fluorescent tubes, medicines and many other small volumes of materials



More natural gypsum for Europe's construction industry

CASEA

WORKING FOR THE FUTURE

CASEA EXTENDS ITS ACTIVITIES IN SPAIN

CASEA GmbH has succeeded in expanding its gypsum production operations following its acquisition of Gypsum Plus, a gypsum producer in Navarra (Spain), last November. With the volumes of gypsum needed by the European construction sector steadily growing year on year, this purchase will further strengthen the company's position on the market.



CASEA unites the REMONDIS Group's gypsum activities in a business that focuses on the sustainable use of raw materials

Germany alone consumes around ten million tonnes of gypsum a year – a figure that is expected to have increased to approx. twelve million tonnes by 2035. Roughly 55% of the ten million tonnes of gypsum used across the country is FGD gypsum, a product generated by flue gas desulphurisation systems at coal-fired power stations. Both the transition away from fossil fuels and the phasing out of coal-fired power stations will mean that there will be less FGD gypsum available to meet this high demand. CASEA is already producing alternative goods, such as recycled plaster from the Group. However: "We see the acquisition in Spain as being an investment in the future. It will help us ensure that we can continue to deliver the raw materials needed and is a further step towards internationalising the sector, a development that began a while back, so that the European markets can continue to be supplied with high quality gypsum-based products," explained Carsten Ketteler, managing director of CASEA. "At the same time, the newly acquired business will make sure that our new facility at the Lippe Plant has

access to the long-term supplies it needs," he continued. This acquisition of Gypsum Plus and its site, which covers more than 100ha and has over 20 million tonnes of gypsum resources, will certainly cover the long-term raw material requirements of the new Lünen facility and any extensions it may make to its capacity. With the current development of the FGD gypsum market in mind, the new plant will immediately begin supplying a product made from natural gypsum as soon as it is commissioned.

Around 25% of CASEA's products are already being sold outside Germany. Besides a few more exotic destinations such as South Korea, Mexico, South Africa and Malaysia – where high quality gypsum-based products are needed to produce food and animal feed or used as moulding plaster and binding agents by the construction chemicals industry – the majority of the company's products are sold to Benelux, Ireland, Italy and Denmark as well as to France, Spain and Portugal. CASEA's management team believe that this acquisition will open up some opportunities to extend the company's position on the market, in particular in the last three countries named. At the moment, there are eight people working at the new site in Cintruénigo in the Navarra mountains. There are plenty of possibilities, however, to extend the site's current 140,000-tonne capacity. "The plant will start supplying our new facility in Lünen this summer. We have ascertained a number of other potential business opportunities in the areas of dentistry, screed binders and construction chemicals," commented Andreas Hübner, who is also a managing director at CASEA. A new sales employee – one with in-depth know-how and many years' experience of the gypsum industry – will be joining the team at Gypsum Plus in May to help them further expand their sales activities.

CASEA's specialty gypsum-based products and calcium sulphate screed binders are in particularly high demand both in Germany and across Europe

REMEX helps to regenerate the Saar region

REMEX IS HELPING RAG MONTAN IMMOBILIEN GMBH TO REPURPOSE THE MAYBACH SPOIL HEAP. A PROJECT THAT IS "WORKING FOR THE FUTURE"

The Maybach colliery spoil heap is located in Friedrichsthal, in the very heart of the Saarland's old mining region. For decades, any coal-free wall rock that was removed from the nearby Enseldorf and Maybach mines was deposited in this area. Eight years ago, however, the spoil heap became obsolete when the last mine in the Saar region closed down. Unused since then, there are now plans to repurpose the site – with REMEX's help.

As with all former coal-mining sites in Germany, the Maybach spoil heap is supervised by the mining authorities. If this 12-hectare area is to be redeveloped and used for a different purpose, then the spoil heap must first be officially released by the mining authorities. This step, in turn, requires comprehensive measures to be undertaken regarding the final design and recultivation of the terrain – a project that was successfully started at the beginning of last year.

RAG is in overall charge of this undertaking and it has commissioned its real estate subsidiary RAG Montan Immobilien to manage this complex project. One of the first steps involves the delivery of around 1.8 million tonnes of mixed earth and minerals. This is an enormous volume and it is essential that there is a reliable supply of this material. Two strong partners have joined forces to make sure this happens: REMEX SüdWest GmbH from Karlsruhe and Homburger Alois OMLOR GmbH. These two firms are a great team as they have been working together in the region for many years now. Operating in the areas of material flow management and transport logistics for residual minerals, the companies handle several million tonnes of bulk materials every single year. A huge advantage, as far as RAG Montan Immobilien GmbH is concerned, as the supply and delivery of this earth is an essential prerequisite for preparing the land in accordance with the 'BBergG' [German Federal Mining Act] and, therefore, an integral part of the plan that must be drawn up to enable the site to be released from the supervision of the mining authorities.



Everyone's goal behind the repurposing of the Maybach spoil heap is to contribute towards the regeneration of the region. The foundations for this are being laid with the delivery of the mixed earth and minerals – a task that can take up to ten years. Beyond this, future plans for the site include a trading estate as well as a recreational area. What is important here is to find an attractive solution that suits the local region and not only creates economic benefits but – and above all – environmental ones as well.

"We are really pleased to be able to give RAG the long-term support it needs to breathe new life into a former coal-mining site in the Saar region."

Marcus Rautenberg, Managing Director REMEX SüdWest GmbH

REMEX®
WORKING FOR THE FUTURE

Driving success with innovations

BUCHEN DEVELOPS AN AUTOMATED HIGH PRESSURE WATER JETTING SYSTEM FOR CLEANING CEMENT KILNS

BUCHEN®

WORKING FOR THE FUTURE

BUCHEN has a tradition of delivering innovations. For years now, the company has been driving forward progress in the industrial cleaning sector by coming up with its own novel systems. Its latest development: a patented process for cleaning cement kilns. An innovation that also clearly illustrates what the primary goals of BUCHEN's development work are – namely to further increase customer benefit, environmental protection and safety levels.

This new system offers some significant practical advantages. As it is automated, the actual cleaning process can be completed far more quickly.

As with any other type of production process, deposits build up in cement kilns over time. Steps must be taken at regular intervals, therefore, to remove these deposits so that the kilns continue to work efficiently and production operations run smoothly. Such work is usually carried out manually with the operatives entering the facility as soon as the kiln has cooled down sufficiently for them to be able to do so. Add together the time needed to shut down the kiln, to carry out the cleaning work (which can last several days) and to start the kiln back up again and operators find themselves facing a relatively long shutdown period. Which means, of course, that they are extremely interested in ways to shorten the length of such projects – and a good reason for BUCHEN to develop an innovative, time-saving alternative.

Being a specialist for cleaning power stations, boiler plants, incineration plants and steam-generating plants, BUCHEN KraftwerkService has created a process that enables the sections of cement kilns most affected by build-ups to be cleaned without the operatives actually having to climb into the area itself. The company has solved this conundrum by combining automation and high pressure water jetting technology: two of the BUCHEN Group's areas of expertise and two key areas of its service portfolio.

Faster, better, safer

This new system offers some significant practical advantages. As it is automated, the actual cleaning process can be completed far more quickly. In addition, less time is needed for the kiln to cool down as the equipment can cope with much higher temperatures. Besides saving time, this system further improves the quality of the cleaning results as BUCHEN KraftwerkService makes the most of the remaining heat and the thermal movement of air to ensure the deposits are broken down in the best possible way.



BUCHEN's mission is to maximise customer benefit by delivering innovative services and deploying future-oriented technology

This pioneering process only uses high pressure water – no additional cleaning agents are deployed. This, of course, means greater environmental benefits and lower waste management costs. It is also a particularly safe system for operatives as the work is carried out from a distance – an advantage that effectively eliminates the potential risks of manual cleaning work. At the same time, it reduces the level of strain the staff have to deal with as manual high pressure jetting is always physically challenging work.

First projects have brought excellent results

This automated system has now been used on different kinds and different sizes of cement works. And the results have shown that BUCHEN has easily met the goals it set itself: depending on the type of plant and the cleaning requirements, BUCHEN KraftwerkService needed up to 80% less time to complete the project. And, in the best case scenario, the costs for the customers were reduced by up to 60%. Clear proof, therefore, that BUCHEN's innovations help drive success – both for its customers and for its own business.

BUCHEN has helped to significantly advance the industrial cleaning sector thanks to its automated systems and processes



A MORE DETAILED LOOK AT THE TECHNOLOGY

At the heart of this patented process is an automated high-pressure machine equipped with a robust high-pressure pump and tank cleaning head. The tank cleaning head is inserted into the cement kilns' cyclone preheaters and calciners, i.e. into the sections that are most impacted by deposit build-ups. The cleaning process begins with the opening of the first access point. Controlled from outside the kiln, the tank cleaning head can move freely around the area it is cleaning – even in very tight spaces. Once the defined ratio of water pressure and discharge rate have been set, the high-pressure pump supplies the jet of high pressure water required to perform the work.

Insulating with a spray gun

XERVON'S HIGH-TECH COATINGS OPEN UP NEW OPPORTUNITIES



Today's industrial coatings are highly complex systems that can perform a variety of functions thanks to their very specific properties. The latest example: an application that enables XERVON Oberflächentechnik to apply paper-thin insulation.

A refinery in the German state of North Rhine-Westphalia. A white coat is being applied to the roof of a huge tank high above the ground. A measure to simply spruce up the tank it would seem. Appearances, however, can be deceptive. What at first glance looks like white paint is, in fact, a high-tech coating that has less to do with optics and much more to do with insulation and protecting the structure against corrosion.

XERVON Oberflächentechnik, the XERVON Group's surface technology experts, deliver a number of specialist services. These include coating the interior and exterior surfaces of industrial tanks. Up to now, this work has primarily focused on anti-corrosion and fire protection coatings or on applications that prevent a potentially aggressive material being stored in the tank from damaging the inside walls. A further service has now been added to this particular field: exterior coatings that contain special particles and have insulating properties, both of which help to maintain the temperature inside the tank.

Heat insulation as a coat application

Mascoat-DTI is at the heart of XERVON Oberflächentechnik's new service – a coating material based on ceramic and silica and applied using airless technology. A coat just one to five millimetres thick is sufficient for Mascoat-DTI to create a thermal barrier that, depending on the area of use, prevents the contents of the tank from either losing heat or from being heated up too much by the sun's rays.

Mascoat coatings are a relatively new kind of system and are still quite rare in Germany. As specialist know-how is needed to apply this material, XERVON only deploys teams that have the necessary skills and expertise to do this. This new type of coating is a perfect fit for the XERVON Group's industrial insulation division, which offers high performance protective cladding insulation including systems involving mineral-fibre insulation, foam glass and Microtherm.

A perfect blend of advantages

By combining the two insulation systems (surface coating and protective cladding), the very most can be made of their advantages. Mascoat applications, for example, are a quick and simple solution for insulating areas that are more difficult to access with conventional forms of insulation. These include the areas under ladders attached to the outside of a tank or hard-to-reach weld joints.

Whether it is to curb climate change, grow energy efficiency or improve the quality of a product: insulation helps businesses to achieve their goals



XERVON Oberflächentechnik is currently using this innovative system for a remediation project, where a number of tank roofs at a refinery need to be coated and insulated

Mascoat-DTI is at the heart of the new service – a coating material based on ceramic and silica and applied using airless technology. Depending on the requirements, a 1-5mm thermal barrier protects the contents of the tank from heat or cold



XERVON Oberflächentechnik also sees these Mascoat coatings as being an ideal system for tank roofs. Insulating these roofs is a particularly complex procedure as they generally have a range of different fittings such as valves, air vents and air discharge outlets. Furthermore, a particularly robust kind of coating is needed here to protect the roof against corrosion – something that is automatically provided by the Mascoat technology. From time to time, employees also have to walk on the tank roofs. Roofs insulated with wool and sheet metal are more likely to suffer damage than roofs that have been sprayed with a coating.

Other applications likely in the future

As the coats required are so thin, XERVON Oberflächentechnik can also use this innovative coating system for plant components. This new coating is particularly good for hot environments where there is a high fire risk.

What's more, it makes sense to use the coating on areas that get particularly hot and that employees may get close to as it protects them from getting burned. Both aspects – fire protection and work safety – are drawing people's attention to this pioneering application, especially when it involves applying heat insulation to industrial fittings. XERVON Oberflächentechnik is, therefore, likely to be using this new high-tech coating in a number of other areas in the future – not just on large-scale tanks.



Safeguarding water supplies in the north east

EURAWASSER NORD REALISES TWO PROJECTS FOR WAZ

EURAWASSER

The Wasserversorgungs- und Abwasserzweckverband Güstrow-Bützow-Sternberg (WAZ) water association recently commissioned EURAWASSER Nord to carry out two projects to safeguard the long-term supply of high quality drinking water in Mecklenburg. The first one – to reorganise water supply in the Kloster Tempzin district – has now been completed and the second project – to build a new clean water storage tank at the Laage Waterworks – is well underway.

Kloster Tempzin connected to the Kuhlen group water supply

WAZ had previously operated its own waterworks in Zahrendorf to supply five areas of the Kloster Tempzin district (in the administrative district of Ludwigslust-Parchim) with drinking water. However, increasing levels of chloride were detected in the water recently. Caused by natural processes, the concentration levels were slowly creeping up towards the statutory limits. WAZ decided, therefore, to take action and connect the areas affected (namely Zahrendorf, Tempzin, Langen Jarchow, Klein Jarchow and Häven) to the Kuhlen group water supply.

Well experienced in such work, REMONDIS' subsidiary EURAWASSER Nord set about realising this plan. As the new pipes had to pass through the Schwerin Lake District, a designated EU 'Important Bird Area', the work was performed in line with all environmental and conservation regulations to ensure that the animals living there had all the protection they needed.

The 4,600m drinking water pipe was successfully laid between Kuhlen and Klein Jarchow (via Holdorf) in just three months according to schedule. Most of the pipe was able to be installed using horizontal directional boring – a modern, minimal impact trenchless method of laying pipes.

“The decommissioning of the Zahrendorf Waterworks is one part of the water association’s strategic drinking water concept, which was developed together with EURAWASSER Nord and was agreed on in 2019.”

Katja Gödke, Managing Director of the Association of Administrations (WAZ)



The building of a new clean water storage tank at Laage Waterworks is helping to secure water supplies in Mecklenburg-West Pomerania

The result: with the network having been successfully re-routed, the areas previously supplied by the Zahrendorf Waterworks now receive drinking water that is of an even better quality than before. Keeping the same water hardness, it has not only been possible to increase water pressure but also to reduce chloride levels by 90%. In the meantime, the decommissioned Zahrendorf Waterworks and the wells connected to it have all been dismantled.

A new clean water storage tank for Laage Waterworks

At the same time, EURAWASSER Nord has been doing the necessary planning work to build a new 500m³ clean water storage tank at Laage Waterworks. This plant supplies water to around 6,000 local inhabitants living in twenty villages and towns in the administrative district of Rostock as well as to the many commercial and industrial businesses located there.

The new tank will replace the single chamber tank that had been installed in 1980 and needed to undergo repair work. The existing plant is also to be expanded. A 300m² extension is to be built, equipped with the relevant technology and then connected to the current facility. At the same time, 146 metres of underground supply and discharge pipes, 104 metres of gravity wastewater pipes (including the shafts) and the bordering street lights are to be replaced. This work is due to be completed by August 2021.

“The decommissioning of the Zahrendorf Waterworks is one part of the water association’s strategic drinking water concept, which was developed together with EURAWASSER Nord and was agreed on in 2019. A further nine waterworks are to be decommissioned and their water supply network rerouted by 2024. The long-term goal here is to save money by not having to carry out costly renovation work – which will also benefit our customers,” explained Katja Gødke, managing director of the association of administrations (WAZ).

The sewage treatment plant: an all-rounder facility

WASTEWATER MONITORING IS EVEN HELPING TO FIGHT COVID

Over the last few decades, sewage treatment plants have become a real jack of all trades. Besides treating wastewater, modern sewage treatment plants act as a barrier for pollutants, recover minerals (such as phosphorus) and supply energy. They are, therefore, making an ever greater contribution towards sustainability and the circular economy. At the moment, they are even helping to fight Covid as tests carried out on wastewater samples provide valuable information about where the infection is most rampant.

EURAWASSER

Monitoring wastewater to detect pathogens is not new. And this is true for coronavirus as well. REMONDIS is collaborating closely with its partners to test wastewater samples: in more than 20 municipal sewage treatment plants

Extensive wastewater monitoring activities

This not the first time, however, that wastewater monitoring has been used to identify and track the origins of trace substances, i.e. microscopic particles. At the end of the day, such plants must know the exact composition of their wastewater to be able to treat it in the best possible way. Monitoring wastewater to detect pathogens is, therefore, not new. As a general rule, the wastewater processed by a sewage treatment plant reflects the state of health of the local population; in the past, for example, these plants have picked up waves of infections, such as hepatitis and norovirus. Their wastewater samples enable on-the-spot information to be gathered about infection hotspots and the spread of infection – and can be used as an early warning system, for example, for new outbreaks in city districts most badly affected.

And this is true for coronavirus as well. REMONDIS is collaborating closely with its partners to test wastewater samples: this applies to more than 20 municipal sewage treatment plants operated by EURAWASSER, a fully owned REMONDIS Aqua subsidiary. Just one example here is the Cottbus sewage treatment plant which is closely monitoring coronavirus to track how this pathogen develops over time. To be able to do this, Lausitzer Wasser GmbH & Co. KG, a EURAWASSER company, entered into a cooperation with the Helmholtz Centre for Environmental Research (UFZ) in Leipzig, the TU Dresden and the DWA [German Association for Water, Wastewater and Waste] in November 2020. The goal here is to monitor the behaviour of the virus in real time and, by doing so, determine the infection rate in the population. REMONDIS is also making the most of the in-depth sampling, analysis and service know-how of its own accredited laboratory, AQS (Aqua Service Schwerin Beratungs- und Betriebsführungsgesellschaft mbH), for this project.



The amount of biogas generated by REMONDIS each year is enough to keep

100,000

climate-neutral natural gas cars on the roads for a year



“Nowadays, sewage treatment plants are complex technological operations that enable us to use the wastewater to recover valuable resources, produce sustainable energy, gather important information to keep everyone healthy – and, of course, to supply clean water.”

Michael Figge, Managing Director of EURAWASSER Goslar

Sewage treatment plants can do more

Nowadays, however, a modern sewage treatment plant is not just a source of information about trace substances. It also performs many other functions including that of a raw materials supplier. Sewage sludge contains valuable raw materials such as phosphorus. With its patented REMONDIS TetraPhos® process and REMONDIS Aquatic Mining®, the company has developed two innovative solutions for the circular economy. What’s more, there is also a great deal of energy hidden in sewage sludge: biogas can be generated from this material in digesters that can then be transformed into climate-neutral energy in combined heat and power units. This, in turn, can be used as a source of energy for the sewage treatment plant itself or fed into the gas network as carbon-neutral biogas. The amount of biogas generated by REMONDIS each year is enough to keep 100,000 climate-neutral natural gas cars on the roads for a year.

Energy from wastewater

A further innovative energy generation project began at EURAWASSER Goslar’s site back in 2014: the microbial fuel cell, BioBZ. Collaborating with the Clausthaler Umwelttechnik Forschungszentrum (CUTEC) and a number of other institutes, EURAWASSER has been looking closely at the potential of producing this green energy. It has already been determined that it is possible to produce electricity as a result of the organic substances in the wastewater being biologically broken down.

All of which demonstrates that sewage treatment plants can offer much more than simply treating wastewater. Michael Figge, managing director of EURAWASSER Goslar, explained: “Nowadays, sewage treatment plants are complex technological operations that enable us to use the wastewater to recover valuable resources, produce sustainable energy, gather important information to keep everyone healthy – and, of course, to supply clean water.” The key here: to keep a close eye on all trace substances.



Nowadays, a modern sewage treatment plant is not just a source of information about trace substances. It also performs many other functions including that of a raw materials supplier

District heat added to Stadtwerke Lüdenscheid's portfolio

AN ACQUISITION THAT IS A MILESTONE IN THE ENERVIE GROUP'S REGIONAL STRATEGY



The City of Lüdenscheid's utilities company, Stadtwerke Lüdenscheid (a company belonging to the ENERVIE Group), began 2021 by extending its range of services for its customers. Besides offering electricity, gas and drinking water, it is now also delivering district heat to Lüdenscheid-Wehberg, which has had access to district heat since 1969. This new service was made possible as Fernwärmeversorgung Niederrhein – the company which had previously been responsible for this task – had sold all of its technical facilities and its customer base to Stadtwerke Lüdenscheid.

As far as the ENERVIE Group is concerned, it made to sense to acquire this business as it has helped to round off its portfolio. Board spokesperson, Erik Höhne, commented: "This purchase is a further milestone in our regional strategy. The environmentally friendly supply of district heat based

on natural gas and the cogeneration of heat and power is an important business for our Group – especially as we already operate district heat networks in nearby Hagen and Herdecke. It's great that we have been given this opportunity to supply heat to our customers in Lüdenscheid as well."

"Being a regional provider of electricity, gas, water and heat, Stadtwerke Lüdenscheid has been interested in taking over the district heat supply in Lüdenscheid-Wehberg for a long while now."

Volker Neumann, the future managing director of Stadtwerke Lüdenscheid

Signing the contract on 17 December 2020 at Stadtwerke Lüdenscheid's offices (from right to left): Volker Neumann, future managing director of Stadtwerke Lüdenscheid, Erik Höhne, ENERVIE Board Spokesperson, Dr Daniel Dierich, Authorised Signatory/Commercial Manager of Stadtwerke Dinslaken, (seated), Tobias Schwermer, Authorised Signatory and Head of Sales/Legal at Stadtwerke Dinslaken (standing)



Besides purchasing the infrastructure from Wärmever-sorgung Niederrhein, Stadtwerke Lüdenscheid has also taken over all of its 320 customers. When he signed the contract on 17 December 2020, Volker Neumann, the future managing director of Stadtwerke Lüdenscheid, was grateful to have finally fulfilled a long-standing wish: "Being a regional provider of electricity, gas, water and heat, Stadtwerke Lüdenscheid has been interested in taking over the district heat supply in Lüdenscheid-Wehberg for a long while now." This 10.4km network is supplied with district heat by a combined heat and power (CHP) plant, which

has two boilers and an electrical output of 500kW and a thermal output of 560kW. Each year, this system is able to supply around 15 gigawatt hours of heat to its customers.

The challenge of the energy transition

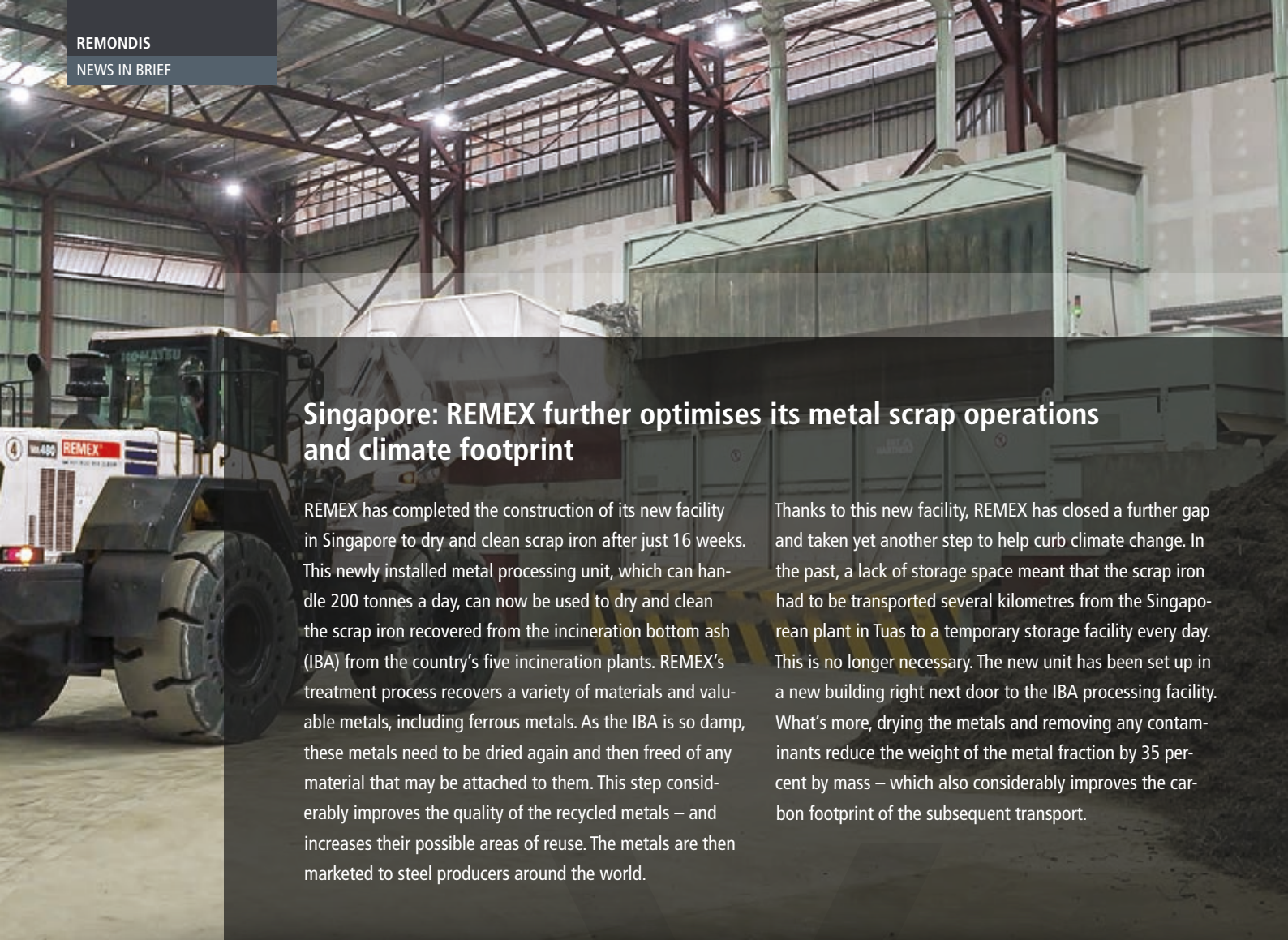
The ENERVIE Group, in which REMONDIS Wasser Energie is one of the main shareholders alongside the City of Hagen and the City of Lüdenscheid, is pursuing its goal of driving forward the energy transition in its region. The local generation of district heat is an important cornerstone in this strategy as it is both efficient and environmentally friendly. Not only is it a clean solution, it is also a reliable source of energy with low operating and maintenance costs.

The CHP plant used to supply Lüdenscheid-Wehberg is particularly efficient as it simultaneously generates electricity and heat from natural gas. This considerably reduces its carbon footprint – also in comparison to oil, gas and wood pellet heating systems.

Making the most of synergies

Integrating Fernwärme Lüdenscheid-Wehberg into the ENERVIE Group's supply network has brought benefits for everyone. Stadtwerke Lüdenscheid has further strengthened its position on its local market and can use the already established sales and customer service structures. At the same time, it can make the most of the ENERVIE Group's comprehensive know-how, gained from operating the district heat networks in Hagen and Herdecke for so many years. Both the customers and shareholders will benefit from the business and technical synergies. As, of course, will the climate.





Singapore: REMEX further optimises its metal scrap operations and climate footprint

REMEX has completed the construction of its new facility in Singapore to dry and clean scrap iron after just 16 weeks. This newly installed metal processing unit, which can handle 200 tonnes a day, can now be used to dry and clean the scrap iron recovered from the incineration bottom ash (IBA) from the country's five incineration plants. REMEX's treatment process recovers a variety of materials and valuable metals, including ferrous metals. As the IBA is so damp, these metals need to be dried again and then freed of any material that may be attached to them. This step considerably improves the quality of the recycled metals – and increases their possible areas of reuse. The metals are then marketed to steel producers around the world.

Thanks to this new facility, REMEX has closed a further gap and taken yet another step to help curb climate change. In the past, a lack of storage space meant that the scrap iron had to be transported several kilometres from the Singaporean plant in Tuas to a temporary storage facility every day. This is no longer necessary. The new unit has been set up in a new building right next door to the IBA processing facility. What's more, drying the metals and removing any contaminants reduce the weight of the metal fraction by 35 percent by mass – which also considerably improves the carbon footprint of the subsequent transport.

Gold for outstanding services in West Pomerania in Poland

Ronald Laska, managing director of REMONDIS Szczecin, has been awarded the West Pomeranian Greifen Gold Medal of Honour. The Greifen Medal of Honour is presented by the Marshal of the West Pomeranian Voivodeship to people who have made an outstanding contribution to the economic, cultural and societal development of West Pomerania as a result of their professional, social and/or public activities.

Ronald Laska was honoured to have been given this award and, following the small, symbolic ceremony, said: "This medal is not just for me – it is also recognition of the company and all it does to support the region. It is an appreciation of the work carried out by the whole of my team: all those people who collect refuse from the flats, firms and institutions, ensure the materials are safely transported and processed, clean the roads and clear them of snow, set up recycling bins, plan our services, draw up offers, conclude contracts, plan investments, solve everyday challenges and so much more. It is a great honour to have our company recognised in this way."

Olgierd Geblewicz, Marshal of the West Pomeranian Voivodeship (right), hands over the award to Ronald Laska, REMONDIS' Managing Director in Szczecin (left)



we-are-climate-action.com – said. planned. done.

Tackling climate change in a half-hearted way is merely sugar-coating the issue. One thing is irrefutable: there is no way we can achieve the 1.5°C goal by simply switching from fossil-based fuels to renewables. A whole range of changes need to be made to curb climate change. REMONDIS' new 'we-are-climate-action.com' website is not just addressing business leaders and politicians. It aims to show everyone why it is such a good idea to promote the circular economy and recycling. Besides recycling discarded materials, the sector carries out a whole range of other resource-friendly processes – all of which help to considerably lower global carbon emissions. Did you know that the circular economy is helping the energy and transport sectors to become more climate friendly? Or that humus is a major carbon store and that compost helps reduce the impact of droughts as it increases the ability of soil to store water fivefold? On its 'we-are-climate-action.com' website, REMONDIS offers many tangible solutions about how the circular economy can tackle climate change and provides plenty of food for thought.



From improving raw material efficiency in the automobile industry to using a bespoke educational programme to raise awareness in children and teenagers: the company shows that it already knows and is practising many ways to curb climate change. REMONDIS would like to persuade people from all walks of life that it is well worth their while to join in – from business leaders to educators, from local councillors to European politicians.



[we-are-climate-action.com](https://www.we-are-climate-action.com)

Phosphorus recovery up close – with REMONDIS' TetraPhos® process

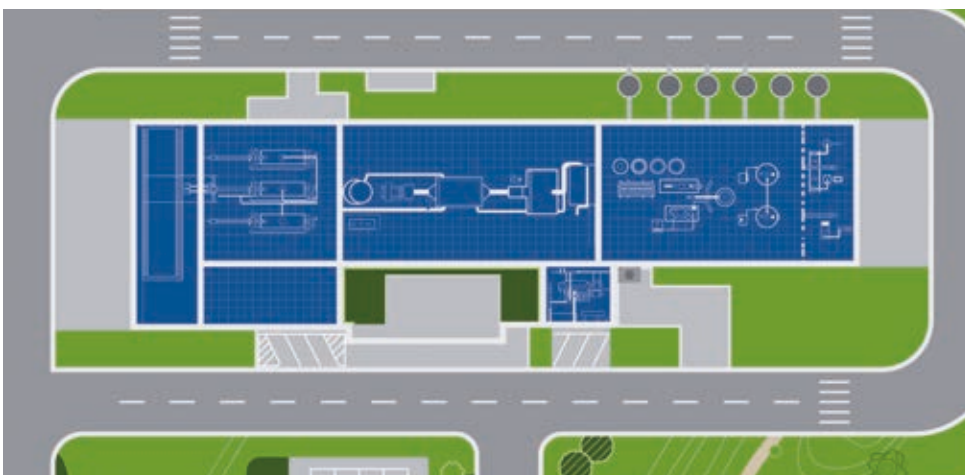
Phosphorus is a particularly vital resource – no form of life on our planet can survive without it. The German legislator has decided that this finite raw material must be recovered from municipal sewage sludge from 2029 onwards. This is already possible today with REMONDIS' economically viable TetraPhos® process. Further details and information about this phosphorus recovery system can now be discovered in REMONDIS' augmented reality app.

This virtual experience is based on a phosphorus recovery facility operated using REMONDIS' TetraPhos® process, which is already being successfully run on an industrial scale by a public private partnership with the City of Hamburg. By scanning the image and with the help of the AR app, phosphorus recycling can become a three-dimensional, visual and vivid experience. A whole variety of details are given, which people can dip into and out of as they please.



Scan the QR code, download the app, scan the graphic and you're off!

Use the AR app and scan the image to discover how phosphorus is recovered. Simply zoom in to enter the building



Donations instead of giveaways



THREE REMONDIS COMPANIES JOIN FORCES TO SUPPORT THE STERNTALER CHILDREN'S HOSPICE

Kinderhospiz Sterntaler e. V., a children's hospice in Mannheim, were delighted to learn of the joint efforts made by REMONDIS Service Südwest GmbH, RETERRA Südwest GmbH and REMONDIS GmbH's material flow management department to support their cause.

At the end of last year, Beate Däuwel from Kinderhospiz Sterntaler e. V. Mannheim was given a cheque for 3,000 euros by Jörg Strässer, operations manager at REMONDIS Service Südwest GmbH, and Matthias Schulz, assistant to the managing director at REMONDIS Service Südwest GmbH, on behalf of all three companies. Due to the current situation caused by the Covid pandemic, the cheque was not handed over in person.

For three years now, the REMONDIS companies serving the region in and around Mannheim have remained in close contact with the Sterntaler children's hospice. "We have all been very aware of the impact Covid has had, especially on charities. Which is why this year we decided not only to keep up but also to increase our Sterntaler donations," explained Jörg Strässer. "By doing so, we are hoping to make it very clear just how much we admire the work being done by the staff at the children's hospice and just how grateful we are to have them," he continued.

This donation campaign began back in 2019 when people working at the companies expressed a wish to reduce the amount of money that was being spent on Christmas presents for their customers and business partners. And so, instead of spending time having to find, pack and send a suitable present (something that also has a negative impact on the environment), the three companies decided to commit themselves to a good cause and help many of the seriously ill children in the Rhine-Main region – and support local climate action, as well.

On behalf of the Sterntaler children and their families, the Sterntaler hospice thanked everyone at REMONDIS Service Südwest GmbH, RETERRA Südwest GmbH and REMONDIS GmbH as well as their customers for putting their funds towards social and environmental projects rather than giveaways. Such support is very welcome and helps charity organisations such as ours to keep going, especially in times such as these.

It is a blessing to see the growing support from both the public and so many companies – support which ensures these important places can survive.

"By doing so, we are hoping to make it very clear just how much we admire the work being done by the staff at the children's hospice and just how grateful we are to have them."

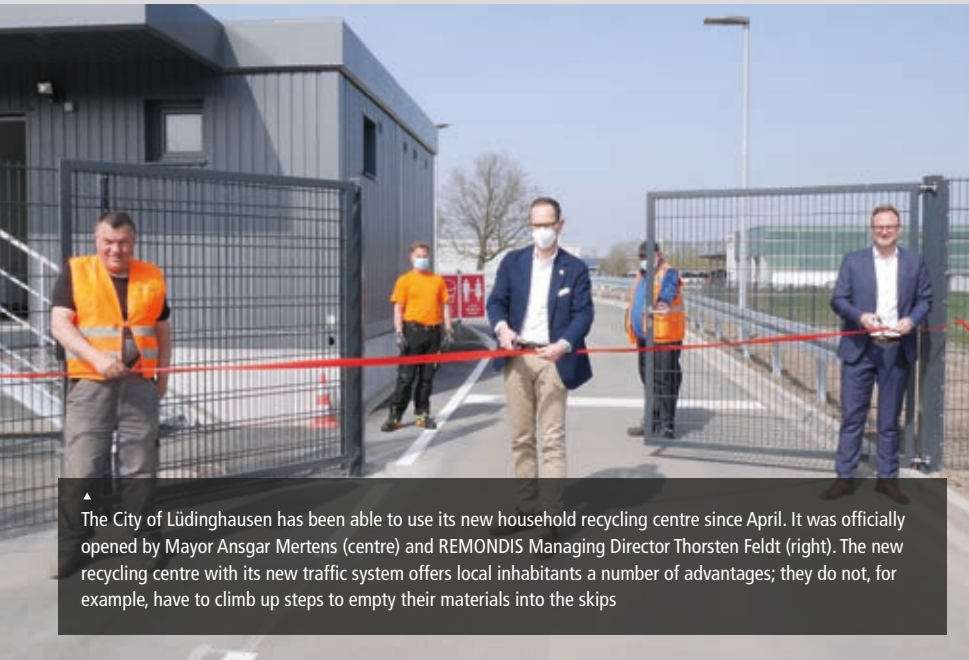
Jörg Strässer, Operations Manager at REMONDIS Service Südwest GmbH



IMPRESSIONS



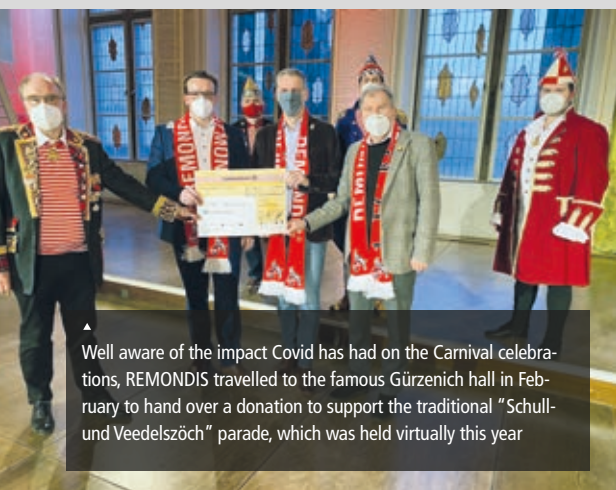
Every pupil in Class 3a at the Dissenchen environmental primary school was given a pair of bright yellow wellington boots in March. Thanks to their water generation agreement, they have had close ties to their water provider, LWG Lausitzer Wasser GmbH & Co. KG, for two years now and have already learned a great deal about water during this time



The City of Lüdinghausen has been able to use its new household recycling centre since April. It was officially opened by Mayor Ansgar Mertens (centre) and REMONDIS Managing Director Thorsten Feldt (right). The new recycling centre with its new traffic system offers local inhabitants a number of advantages; they do not, for example, have to climb up steps to empty their materials into the skips



The Steag power station in Lünen was razed to the ground on 28 March in the largest controlled demolition of the year. It used to supply the Lippe Plant with energy (when it was still an aluminium works). This moment is also a symbol of how industry is changing here: for many years now, the recycling centre at the Lippe Plant has been able to supply energy produced from alternative fuels



Well aware of the impact Covid has had on the Carnival celebrations, REMONDIS travelled to the famous Gürzenich hall in February to hand over a donation to support the traditional "Schull- und Veedelszöch" parade, which was held virtually this year



A delegation of MPs from the Republic of Tartarstan visited the Republic of Mordovia in March to view, among other things, their exemplary waste collection systems



Real choice is only possible if you have all the facts

Which is why there should be a raw material efficiency label on all consumer goods that shows just how sustainable, resource-friendly and recyclable a product actually is. Such a label was designed a long time ago. What is lacking is the political will to implement it. And, because this is the case, many companies continue to manufacture their products using virgin rather than recycled raw materials – ignoring the principle of ecodesign and the negative impact this is all having on our environment and climate.