

The REMONDIS Group magazine

REMONDIS AKTUELL

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Can plastics ever be sustainable?

Only if everyone plays their part –
manufacturers, consumers,
industry and politicians

A great honour

Ludger Rethmann becomes a member
of the French Légion d'Honneur

Ecodesign Directive focuses on electrical devices

REMONDIS calls for regulations
on recyclability

Hamburg soon to be a phosphorus supplier

REMONDIS Aqua and HAMBURG WASSER
begin building a phosphorus recovery plant

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Editor: REMONDIS SE & Co. KG // Brunnenstr. 138 // 44536 Lünen // Germany

T +49 2306 106-515 // F +49 2306 106-530 // remondis.com // info@remondis.com

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Dear Readers!

Even after just a few months, 2019 is already panning out to be a year full of uncertainty. We are all having to face a variety of challenges. With many of these linked to climate change and the environment, they are automatically affecting the environmental services sector as well. The impact of climate change could be felt all around the world last year with countries being struck by floods, forest fires and drought – and experts are expecting more of the same this year. Both industrial and political decision-makers and consumers across the globe are well aware that urgent measures need to be taken to reduce greenhouse gas emissions – something that has been further highlighted by the young Swedish environmental activist, Greta Thunberg, who has inspired schoolchildren to take to the streets on Fridays to get adults to finally tackle this problem. This will be a mammoth task as it involves nothing less than halting the loss of biodiversity and ensuring there are sufficient supplies of natural resources for future generations. And this is precisely what REMONDIS does by recovering high quality raw materials from waste. Indeed, there is no other individual measure that is so successful at cutting greenhouse gas emissions and conserving natural resources. And this is why we see it as our task to extend the reach of our services and pass on our know-how to others – especially to other countries – to promote resource-friendly recycling activities.

Our industry is currently undergoing a technological change that will alter the way many things are done. As the world becomes ever more digital, it is inevitable that this technology will have an impact on our everyday lives as well as on the way we do business. The spread of digitisation, however, is



Egbert Tölle, REMONDIS Board Member

creating its own new set of challenges. The political environment in many regions around the world is also changing which could hamper our cross-border efforts to promote sustainable development. This, of course, also includes the uncertainty surrounding Brexit and the growing tensions between the so-called superpowers. We need the support of our politicians so that we can make the world that little bit more sustainable – whether it be the implementation of a Europe-wide landfill ban or the creation of an Ecodesign Directive that takes raw material efficiency into account as well as energy efficiency. All in all, the upcoming European Elections will be an important political milestone for Europe.

REMONDIS is doing its utmost to turn these challenges into opportunities and to navigate through these stormy seas safely. We are marking out the way for sustainable success by investing in technology and growing our portfolio.

You can find out more about our plans for the future by taking a look through this latest issue of REMONDIS AKTUELL – and discover how our customers can benefit from our strong and stable services in these volatile times.

Yours

A handwritten signature in black ink, appearing to read 'Egbert Tölle'. The signature is fluid and cursive, with a prominent vertical stroke on the left side.

Egbert Tölle

Can plastics ever be sustainable?

NEW APPROACHES NEEDED FOR HANDLING PLASTICS – FROM MANUFACTURERS, CONSUMERS, POLITICIANS AND THE INDUSTRY

Both the growing volume and diversity of plastic products and plastic waste and the impact they are having on our environment are forcing us to rethink this material and how it is handled. And not just by one group but across all levels. If the plastic life cycle is to be closed and this material (no matter what its form) is to be recovered so it can be reused again and again, then a concerted effort has to be made by all sections of society. REMONDIS has been focusing on thermoplastic recycling since the 60s – coming up with innovations and driving progress in this field. Recycling firms, however, cannot solve this problem by themselves. It will simply not be possible to bring about significant change unless politicians come up with smart, sustainable decisions, consumers play a more active role, raw material efficiency is taken into account by product designers and binding rules are introduced for public and industrial procurement. How then can plastic be turned into a sustainable material?

Looking at plastics from an engineer's point of view, there is no other material around that is so versatile. Plastics are transformed into moulded parts, fibres and film and processed into semi-finished products. They are used in packaging materials, textile fibres, lagging, pipes, flooring, varnish, glues and cosmetics; in electronics as a material for insulation, circuit boards and housing; in car manufacturing

as a material for tyres, upholstery, dashboards, fuel tanks and for a whole host of other uses. Indeed, it is impossible to imagine today's modern world, with its population of almost eight billion people, without it. It is everywhere: plastic packaging extending the shelf life of our foods, plastic-based medical technology, functional clothing, mobility. Economic, low-emission vehicles are only possible because of the lightweight components built into them – again, thanks to plastic. In other words: we cannot achieve any of this without plastics.



It should go without saying that plastic products should not end up littering our countryside and polluting our seas and oceans. Which takes us to our first challenge: ensuring that all plastics are systematically collected and recycled all around the globe so they can be reused. At the moment, the media is focusing its attention on the plastic waste in our oceans. Researchers at the Helmholtz Centre for Environmental Research in Leipzig have discovered that 90% of the plastic waste drifting in our seas comes from 10 rivers, eight of which are in Asia and two in Africa. A mere fraction has found its way from Germany and Europe. Blame is often apportioned – unfairly – to packaging material from Germany. In 2017, the 'Dual System' in Germany (the scheme responsible for the kerbside collection of old sales packaging) had almost all of the sales packaging it had collected from recycling bins processed either in Germany or in neighbouring European countries. According to the dual system operators, approx. 85% of the packaging collected was sent to German sorting and recycling plants and around 13% sent as a commodity to Germany's East European neighbours to be processed. Just a very small amount of the lightweight sales packaging was sold as an accredited commodity to Asia in line with Basel Convention rules – and always based on the premise that it will be recycled using environmentally sound processes. For the first time, the new Packaging Law has considerably increased the materials recycling rate, namely to 63%. It will be a huge challenge to achieve this. With this new rate in mind, REMONDIS opened up a new facility in Erftstadt near Cologne on 01 January 2019, which is one of the country's biggest and most effective plants for screening materials collected by the 'Dual System'. This facility can sort up to 120,000 tonnes and separate the different materials according to type. Time will tell whether modern sorting technology alone will enable these ambitious materials recycling rates to be met. They are, however, unlikely to be achieved unless manufacturers rethink the way their packaging is put together and households make a greater effort to sort their materials correctly.



Green procurement is one of the ways the public sector can help curb climate change

The recycling rate of PET bottles sold and collected via the deposit return scheme already lies at



97.3%

PET recycling is almost there

Things are somewhat easier for pure recycled PET as this material – used primarily to make drinks bottles and functional clothing – is in high demand. According to a GVM study, 93% of all PET bottles were recycled in 2017. The recycling rate of bottles sold and collected via the deposit return scheme lies at 97.3%. Germany has, therefore, already achieved the EU's target, i.e. that 90% of plastic bottles must be collected separately. Here, too, REMONDIS is spearheading the recycling efforts with its state-of-the-art facilities, such as its plant at the Port of Hamburg. REMONDIS Recycling produces around 20,000 tonnes of PET flakes at its facility in Hamburg alone, which can then be used to make new high quality products.

More money needs to be invested in research and development and in new facilities to make plastics fit for the future as a recyclable material. This also includes the efforts being made by the chemicals industry to drive forward chemical recycling (converting plastics into their original source materials) so it becomes a viable option. Time will tell whether such processes will be able to make a meaningful contribution or not. All too often, announcements have been made about chemical recycling systems that, in the end, are unable to be applied on an industrial scale. At the moment, these systems are not actually recognised as materials recycling. The Austrian chemicals industry is calling for the chemical recycling of plastics to be included in the calculation of the recycling rates. At present, chemical recycling is not recognised as a form of materials recycling in Austria – nor in Germany – and is not taken into account when calculating the recycling rate. Which brings us to the next important point: the role of politicians.



While the plastic in our oceans does not come from Europe, the solutions to this problem do – with comprehensive collection schemes and smart recycling technology

Use of recycled materials & green procurement

The whole business of recycling materials is only worth its while if there is actually a market for the recycled products. 14% of the raw materials needed by industrial businesses in Germany come from the recycling sector. Which means, of course, that 86% do not. There are two ways to increase this figure. Firstly, the market needs products that can be fully recycled. This goal can only be reached with an EU-wide Ecodesign Directive that takes raw material efficiency into account and gets manufacturers to design their products – no matter whether it be smartphones, sales packaging or cars and buildings – so that preferably all of the contents can be recycled when the product reaches the end of its useful life. Secondly, the best scenario would be for industrial businesses to automatically use recycled raw materials to cover their needs rather than go straight to the so-called primary raw materials that have such a negative impact on the environment. It is up to the politicians to decide what measures should be introduced to bring this about (e.g. introducing obligatory procurement rates). The recycling industry does, however, believe that this matter should at least be looked into.

This is not something that just affects the industry though. The public sector can also influence the move towards a greener economy. Councils invest around 300 billion euros a year – from buying pencils all the way through to buses. This puts local authorities in a strong position as they look to source their products. They could make a conscious decision here to use resource-efficient products to protect the environment. By doing so, they would promote eco-friendly products and services and help ensure new innovative, environmentally friendly products make it to market. The UBA [Federal Environment Agency] makes it clear just how important it believes green public procurement to be, writing on its website: “By making environmental protection one of the pillars of their procurement policies, government can lead the way. Setting such examples can potentially prompt both companies and consumers to opt for green alternatives.”

The problem here is not a lack of good intention. Setting it into motion is proving to be more difficult. There are hardly any websites around that suggest that those responsible should prioritise the use of resource-efficient and environmentally friendly products. And this despite the fact that the German Cabinet passed the updated German Sustainability Strategy on 07 November 2018. This paper calls for public procurement to be more sustainable. So far, however, these plans have been limited to using recycled paper and reducing the carbon emissions of government cars. Which takes us to the last point: the efforts to tackle climate change.

Recycling – the best way to curb climate change

The logic is incredibly simple: each kilogram of recycled raw material recovered from waste dramatically reduces the consumption of land, energy and primary raw materials and cuts carbon emissions. According to DSD - Duales System Holding, the dual systems save around 3.1 million tonnes of CO₂ equivalents every year, primarily through recycling plastics. At the 24th global climate conference held in the Polish town of Katowice, the BDE [Federal Association of the German Waste Management Industry] called for a systematic Europe-wide ban on landfills, for more sustainable procurement measures as well as for closer international collaboration work. If the European Union wishes to be carbon-neutral by 2050, then a ban on the use of landfills must be introduced across Europe as soon as possible. In addition, local, state and central government must lead the way in spearheading sustainable procurement. Local authorities and government offices should focus more on the Green Public Procurement criteria, extend the scope of the rules already in place and ensure they are enforced.

Moreover, the BDE expressed a wish for the German government to create appropriate framework conditions to promote recycling. Herwart Wilms, REMONDIS managing director and Vice President of the BDE, underlined the need for a minimum content regulation: “If new products had to contain a minimum amount of recycled raw materials, then this would automatically create a market for recycled materials.”

REMONDIS has been recycling products to deliver sustainable, climate friendly raw materials for decades now – recovering and returning around 30 million tonnes of recycled raw materials to production cycles every year.



Raw material efficiency as a measurable criterion in product design: how much of my product is made of recycled raw materials? How many of its contents can be recovered and recycled at the end of its useful life?



“If new products had to contain a minimum amount of recycled raw materials, then this would automatically create a market for recycled materials.”

Herwart Wilms, REMONDIS Managing Director and Vice President of the BDE

Right down to the very last piece

THE NEW PACKAGING SORTING FACILITY IN ERFSTADT ACHIEVES RESULTS THAT NO OTHER CAN MATCH

The new Packaging Law, which has been in force since 01 January 2019, sets out a number of recycling targets until 2022 to ensure an ever increasing volume of plastic packaging is recycled. One of the most important targets here is that materials recycling should increase from the current rate of 36% to 58.5% in the first year and to 63% from 2022 onwards. Plans are, once the last recycling rate has been reached in 2022, to review the recycling targets within the following three years and push them up even further if necessary. More money needs to be invested in state-of-the-art sorting technology if such ambitious recycling rates are to be achieved. Once again, REMONDIS is showing how this can be done having opened up a new high performance sorting facility in Erfstadt near Cologne, which was commissioned at the same time the new Packaging Law came into force.

All in all, Germany has a relatively high volume of municipal waste – around 40 million tonnes are produced every year – which means that the country's sorting and recycling plants do not need to worry about whether they have enough material or not. The challenge that these businesses do have to face, however, is how to improve the range and quality of the materials that can be recovered for recycling. And this challenge must be dealt with if these new and ambitious materials recycling rates are to be met. Which was precisely why, during the planning phase, REMONDIS not only put thought into how big the sorting facility in Erfstadt should be but also into how many types of materials could be recovered and separated from each other. Handling a through-

put of up to 150,000 tonnes a year (120,000 tonnes of which is lightweight packaging from the recycling bins), the new plant is one of the biggest of its kind on the German recycling market. There was also nothing accidental about the choice of the location either. Built on a large site in an industrial area near Erfstadt, the facility has no immediate neighbours who could be disturbed by its operations and is very close to the City of Cologne and the densely populated Rhineland region.

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The range of the recovered materials must be improved, if the new recycling rates are to be met

The challenge is how to improve the range and quality of the materials that can be recovered for recycling. This is the only way to achieve the ambitious goal of growing materials recycling rates.



Every tonne of recyclable material that is recovered for reuse helps conserve our planet's resources and protect the environment

The packaging material is transformed into raw materials in the facility's three buildings. Each building has its own specific role, either accepting the incoming material, sorting it or storing it. The hall responsible for handling the incoming material is equipped with a gantry crane, which is easily able to deal with the large volumes delivered each day. The recycling bags are automatically opened so that the material can be transported along a conveyor belt that is, all in all, around 1.5 kilometres in length. This enables the material to undergo many different sorting and screening stages helping to ensure that as many different types of plastics can be recovered and separated from each other. Various kinds of equipment are used here including three vibrating screens, a drum screen, a total of 21 near infrared separators, four air classifiers and two ballistic separators. With the quality of the recovered materials being so high, they can be sold on to manufacturers as environmentally and climate friendly recycled raw materials – helping to significantly reduce the demand for so-called primary raw materials, which have a considerably greater impact on the environment. At the end of the day, one tonne of recycled plastic saves 1.2 tonnes of CO₂ compared to virgin plastic produced from crude oil.

The plant in Erfstadt is able to recover and separate a large number of different materials so they can be reused. These include polyethylene (PE), polypropylene (PP), polystyrene (PS), PET bottles, PET trays, drinks cartons, tinfoil, aluminium, plastic film, paper and cardboard and even glass.

The latter is one of the special features of the Erfstadt facility. Any residual materials left over after the sorting process are put through a further screening system, which is when the outthrow material glass is recovered. Looking at the results of the test operations, the facility is expecting to recover around 2,000 tonnes of glass a year – a figure that no other materials recovery facility is able to match. Just a very small amount of the input material ends up being sent, for example, to the cement industry as refuse-derived fuel (RDF) for producing electricity and heat. For the most part, this RDF is made up of mixed plastics and sorting residue which has been classified by the facility as being non-recyclable.

The different kinds of sorted plastics that have been recycled for reuse are sold on to the plastics processing industry in Germany and other European countries. Any ferrous metals and aluminium are sent straight to steelworks and aluminium processors via REMONDIS' subsidiary, TSR, and other metal processors. Any paper and drinks cartons are processed at different paper mills. Materials that are to be used to produce energy are transformed into RDF at the company's own plants and then used in its own power stations or sold on to the cement industry.

Thanks to its work, REMONDIS' sorting plant in Erfstadt should help to close more material life cycles and fulfil the regulations set out in the new Packaging Law.

MATERIAL	RECYCLING RATE Packaging Law	RECYCLING RATE 01.01.2019	RECYCLING RATE 01.01.2022
Glass	75%	80%	90%
Paper & cardboard	70%	85%	90%
Ferrous metal	70%	80%	90%
Aluminium	60%	80%	90%
Drinks cartons	60%	75%	80%
Other composites	60%	55%	70%
Plastics	60%	90%	90%
Materials recycling	36%	58.5%	63%

A first step

ECODESIGN DIRECTIVE TAKES A CLOSER LOOK AT THE LIFE CYCLE OF ELECTRICAL APPLIANCES

The European Union has taken a further step towards advancing sustainability by turning their attention to electrical and electronic devices. A number of comprehensive amendments to the Ecodesign Directive aim to make electrical equipment – and in particular household appliances – more resource and climate friendly. For the first time ever, the EU has now focused on the life cycle of these products.

The European Commission and EU member states have chosen to take a two-pronged approach in their amendment of the Ecodesign Directive. On the one hand, they are intending to toughen up the energy efficiency regulations that are already in place. On the other, they wish to introduce new rules regarding the life cycle of electrical appliances. To begin with, these will apply to ten product groups, in particular household appliances (such as dishwashers, washing machines and fridges) and lamps.

The EU wishes to make it possible for these appliances to be used for longer by making it easier to both repair them and get hold of spare parts. Spare parts, for example, must be available for a longer period than is currently the case and everyone should be able to access information about how to repair an appliance if it breaks down. What's more, they should be designed so that they can be fixed using standard everyday tools.

The majority of these new regulations will become binding from March 2021 onwards. The new section focusing on a product's life cycle will certainly help to conserve our planet's natural resources as large

volumes of raw materials are needed to manufacture new appliances. Having said that, however, the repaired products will also eventually become redundant – no doubt as soon as the point is reached when the age and performance of a machine outweigh the repair costs.

With this in mind, REMONDIS continues to call for greater focus to be put on raw material efficiency. The goal here is to have product labels that not only inform consumers about energy efficiency but also about the products' recyclability. For example, how well a fridge can be recycled once it reaches the end of its useful life and whether it already contains recycled raw materials. This enables consumers to base their decision on more information than simply price and expected life span.

REMONDIS is calling for the recyclability of products to be included in the Ecodesign Directive

From March 2021 onwards, manufacturers of electrical devices in the EU must make it much easier for their appliances to be repaired





Shortage of truck drivers officially confirmed

POSITIVE LIST SHOULD MAKE IT EASIER TO HIRE NON-EU NATIONALS



The whole industry has been preoccupied with the problem of how to recruit new lorry drivers for a long while now. The number of vacant truck driver positions available at recycling businesses, logistics firms and public transport companies is growing all the time.

In January 2019, the Bundesagentur für Arbeit (the job agency run by the German government) held a review of this profession to analyse to what extent there was a skills shortage in this area. The results have now officially confirmed that there is a significant lack of truck drivers available on the market. If the agency's next review (due to be held in June 2019) mirrors the results of the first, then it may become easier to fill vacant truck driver positions with non-EU nationals. If the Bundesagentur für Arbeit determines that there is a skills shortage for a particular line of work in two back-to-back reviews, then this profession is added to a so-called positive list. This list is an overview of professions which can, in principle, be filled by people living outside the EU.

The recycling sector has been calling for professional truck drivers to be added to the positive list for a long time now as demographic change has led to many firms finding it very difficult to fill these positions in many regions. No matter whether it involves kerbside collections or the collection of commercial and industrial waste, all of the supply chains in the recycling sector are based on the transport of waste. A look at the map shows that this problem is already having an impact on practically all German states.

According to the German Association of Freight Forwarders and Logistics, the industry currently needs at least another

45,000



truck drivers



According to a survey carried out by the BDE [Federal Association of the German Waste Management Industry], around 65% of all recycling firms are having problems filling their vacant lorry driver positions. REMONDIS has openings for 126 truck drivers across Germany at the moment. The DSLV [German Association of Freight Forwarders and Logistics] has said that it currently needs at least another 45,000 drivers and that 30.7% of the HGV drivers in Germany are over 55 years old. Which means that the problem can only get bigger over time. Take into account the forecasts coming from the logistics and recycling industries that road freight is expected to increase by 1.4% over the next two years alone, then an already bad situation is about to get much worse.

These figures clearly show that this particular skills shortage could create a real problem for local inhabitants as well as commercial and industrial businesses.

The solution, however, is proving to be more complicated than expected. Even though recycling firms have been paying their drivers above-average salaries for many years now, there has been a worrying fall in the number of people applying for these jobs. Potential applicants are obviously not being tempted to apply even though the companies are happy to take over the costs of applying for and training to get an HGV licence (category C) and are offering a whole list of other benefits. The possibility that this profession could be added to the positive list will give the industry some breathing space. At the moment driverless lorry technology is neither safe nor reliable enough to be used on a regular basis. Until this situation changes, truck drivers will continue to play a key role in the recycling industry – transporting goods and waste and, as a result, helping to conserve natural resources and protect the environment.

- A skills shortage
- Signs of a skills shortage
- No signs of a shortage



Source: statistics published by the Bundesagentur für Arbeit



Brexit for British waste?

THE IMPACT OF BREXIT ON THE EUROPEAN WASTE MANAGEMENT INDUSTRY

While REMONDIS aktuell's editorial team were putting the final touches to this latest issue at the company's head office in Lünen, time was gradually running out in London, a good 500 kilometres due west, for Westminster to secure an orderly Brexit. 23 days before the UK is due to leave the EU, there is still no sustainable compromise in sight. A hard Brexit is appearing more and more likely. Uncertainty is growing – in the European waste management industry as well. REMONDIS also has branches in the UK. We spoke to Steve Patterson, managing director of REMONDIS UK, to find out how he thinks things will progress.

In a letter to the House of Lords sent at the beginning of 2019, Environment Secretary Michael Gove stressed that the majority of the notified waste exports from the UK will continue to be able to be shipped to the EU. In his letter, he wrote: "UK regulators have made substantial progress in agreeing with EU counterparts that shipments of notified waste which had previously received consent can, in a no deal scenario, continue to be shipped with no requirement for a new application by UK exporters."

Having said that, there is a great deal of insecurity among European partners regarding Brexit. Steve Patterson, managing director REMONDIS UK, put things into perspective for us.

Steve, regardless of your own personal opinion, what is your view of Brexit from a professional point of view?

Steve Patterson: First of all, we have to respect the decision made by a narrow majority of the people in the UK, whether we like it or not. After all, that is how democracy works. However, implementing this decision in detail is turning out to be a lot harder than most of us had expected. In particular, issues like the unobstructed trans-frontier shipment of waste didn't seem to have been on anybody's radar. Now we need to make sure we can prevent a state of emergency and ensure the free flow of waste material and commodities across borders.

The British environment secretary Michael Gove is playing down the possible consequences of Brexit for the recycling and waste industry. 'Business as usual' seems to be his current motto. Do you share his optimism?

Steve Patterson: I do believe that common sense will prevail in the end. Regardless of their outward optimism, however, the British Ministry of Environment is still preparing for possible bottlenecks. They've been looking for suitable

landfills in the South of England to take any waste that doesn't make it out of the country. The Environment Secretary has also announced that the volume of the approved storage areas might be extended at short notice in certain cases. In that respect, the motto is more like 'hope for the best but prepare for the worst'.

And what would be the worst case scenario?

Steve Patterson: Technically, in the event of a hard Brexit, we could face problems with the exporting of waste and materials across our borders. While the regulators have stated that the necessary shipment permissions (Trans-Frontier Shipment Notifications) will remain valid, we're still unclear how the customs controls will work and what additional costs and delays we could face. As everyone knows this would cause disruption and potentially a cost increase over utilising UK outlets for disposal – most likely landfill, as we don't have the incineration capacity to cover all exported waste. This additional expense would lead to cost increases for customers as the industry adapted to the change. While the UK authorities have taken the view that waste export is a service and thus is tariff free, this position may not be accepted by receiving countries and it is currently unclear what customs tariff may be applied to the logistic element of the export.

How big a problem is that?

Steve Patterson: The UK mainly exports refuse derived fuel (RDF) to continental Europe, about 3.6 million tons a year. Every month, around 40,000 tons are shipped through the port of Dover alone. And that's just 15% of the total amount. If that material were to pile up on the roads to the ports, we'd have a major problem. However, there is room for optimism. Most of our exports from the UK are shipped to Sweden and the Netherlands. Sweden has now agreed that we can continue to export under the current TFS without the need for a new TFS in the event of a hard Brexit. This is good news and if the Netherlands and Germany agree this will put us in a better situation if a hard Brexit occurs. The receiving authorities in countries accepting RDF have generally all accepted this principle now. Around 98% of the RDF flow will not be affected by any changes in the TFS documentation. The current issue is how the customs position will be managed i.e. how we will achieve clearance at the port, what documents are required and what tariffs or duties might apply.

Do you expect a long-term impact on the British-European circular economy?

Steve Patterson: Economic turmoil is never good for long-term investments, regardless whether it is caused by Brexit or a general economic downturn. If the economic downsides can be limited through a 'softer' Brexit, then we should be able to continue the circular economy journey.



Steve Patterson, Managing Director of REMONDIS UK

Recycling and the circular economy have a higher profile in the UK than ever and my belief is that the public will want to see the UK continue these developments. In the longer term, my view is that after some changes – maybe a delay, a new election or even a change in political leadership – we will enter a transitional period and spend a number of years rebuilding many of the systems and processes that we will lose through Brexit. I hope that the impact of Brexit will be a bump in the road for our industry in the UK rather than something more severe.

Steve, thank you for sharing your insight with
REMONDIS AKTUELL



A great honour

LUDGER RETHMANN RECEIVES THE FRENCH LEGION OF HONOUR

The people and institutions who are awarded the Légion d'Honneur become a member of this special group at the suggestion of and in the name of the French President. This Order was initiated in 1802 by none other than Napoleon Bonaparte. Napoleon's intention here was to create a system that rewarded military and civilian valour as well as exceptional talent and services. The circle of people invited to join the French Legion of Honour is very small indeed. On the initiative of the French President Emanuel Macron back in September 2018, Ludger Rethmann, Board Member of the RETHMANN Group and Board Chairman of REMONDIS, joined this elite group on 14 March – the only German national to be awarded this honour this year.

Agnès Pannier-Runacher, Secretary of State to the French Minister of Economy and Finance and former board member of Compagnie des Alpes (a sister company of Transdev), presented the Légion d'Honneur to Ludger Rethmann during a special awards ceremony. Held at the Ministry of Economy and Finance in Paris, this event was attended by four ministers and over 100 politicians and business leaders from France and Germany, all of whom had received a personal invitation from the French Minister of Economy and Finance Bruno Le Maire. Among the guests were management and supervisory board members from the banking sector, the utilities and waste management industry, logistics and transport and the steel industry and energy sector as well as family business owners, board members from other French companies and diplomats from France and beyond.

proved to be a great opportunity for the members of the Rethmann family, the ministers and the business leaders to discuss the Franco-German alliance and Europe's future economic prospects. There were a number of guests from Transdev including Board Chairman Thierry Mallet and other directors and supervisory board members. Caisse des Dépôts was represented by Board Chairman Eric Lombard and his deputy Olivier Sichel, who also has a seat on the supervisory board of Transdev.

Ludger Rethmann thanked Agnès Pannier-Runacher, President Macron and Minister Bruno Le Maire for the award. Taking a look at the close relationship between the two countries, Ludger Rethmann said: "The Germans really appreciate President Emmanuel Macron's tireless efforts to further the friendship between our two nations and reform the European Union. Being a family running our own business, we fully support the open letter that he published last week. It is not only Europe's citizens that need a strong and united Europe to be able to live a peaceful and secure life. Companies in Europe also need a strong and united Europe to be able to enjoy healthy growth

After the ceremony, those attending were invited to a reception at the French National Library. This





"The RETHMANN Group is looking to extend its activities in France and will always remain true to its values and principles: working respectfully, valuing others, focusing on the goals, promoting sustainable growth and – this is also important – ensuring the business is a success."

Ludger Rethmann, Board Chairman of REMONDIS

and be a success on today's globalised markets. The RETHMANN Group is looking to extend its activities in France and will always remain true to its values and principles: working respectfully, valuing others, focusing on the goals, promoting sustainable growth and – this is also important – ensuring the business is a success. We will continue to follow our collaborative and sustainable approach to overcome the future challenges of the recycling and mobility sectors."

As a member of this legion, Ludger Rethmann has joined a group of illustrious and high-profile people. Recipients of France's highest honour include the French presidents, currently Emmanuel Macron, all prominent members of the Bonaparte family as well as leading international politicians such as Konrad Adenauer, Dwight D. Eisenhower, Her Royal Highness Princess Beatrix of the Netherlands and Charles de Gaulle as well as many international artists. The most well-known recipients from the world of business have been Bill Gates, Hubert Burda and Liliane Bettencourt. Right from the start, this medal could be awarded to people irrespective of their nationality, place of birth, situation or religious beliefs. Ludger Rethmann has now been awarded this Order as a German entrepreneur who has shown outstanding merit as he has sought to promote both friendship and business between France and Germany.

There could not, in fact, have been a better time for Ludger Rethmann to enter the French Legion of Honour. Faced with the backdrop of the upcoming Brexit and the Trump administration's unilateral withdrawal from longstanding, multi-lateral trade agreements, Germany and France set an important example at the beginning of the year by renewing and extending the alliance between their two countries. German Chancellor Angela Merkel and President Emmanuel Macron met in Aachen on 22 January to sign a treaty "on Franco-German cooperation and integration", updating the Elysee Treaty and taking the German-French friendship to a new level. The goals set out in this new treaty include working more closely together on EU matters, with regular

consultations at all levels ahead of major summits. Moreover, they wish to create a Franco-German economic zone that should reduce red tape between the two countries. To ease the way, they intend to set up a Franco-German council of economic experts comprising ten independent members.

On 19 February, the French Minister of Economy and Finance Bruno Le Maire addressed representatives of both countries at the Allianz Forum in Berlin. During his speech he called on the two nations to stand together and present a united front, especially when it comes to dealing with matters of great importance. France and Germany, being two of the key driving forces in the heart of Europe, must move forward hand in hand to defend European culture and enhance its economic potential. Having invited Ludger Rethmann to enter the French Legion of Honour, the Franco-German alliance has gained another dedicated supporter of a more united Europe. The Rethmann Group has been on the French market for many decades now. Only just recently, the company was praised by the French Ministry of Economy and Finance for opening up a further significant chapter in the Franco-German business alliance following its acquisition of a 34% share in Transdev with its 83,000 employees.

(from left to right): Eric Lombard, Board Chairman of Caisse des Dépôts, Irmgard Rethmann, Ludger Rethmann, Board Member of the RETHMANN Group and Board Chairman of REMONDIS, Gerhard Cromme, former Chairman of the Supervisory Board of Siemens AG and ThyssenKrupp AG



8½ hours of battery life

FES TESTS ITS FIRST ALL-ELECTRIC WASTE COLLECTION TRUCK

REMONDIS' subsidiary FES, a firm based in Frankfurt, recently tested the 'Futuricum' fully electric refuse collection truck – the first company in the industry to trial such a vehicle. The practical tests went well. An evaluation of its efficiency and performance is currently being carried out.



The three-day trial attracted wide interest. The company that had developed the truck, Designwerk Products AG from the Swiss town of Winterthur, first presented the vehicle to the head of the City of Frankfurt's environment office, Rosemarie Heilig, the managing director of REMONDIS Südwest, Siegfried Rehberger, and the FES managing directors, Benjamin Scheffler and Dirk R Emmert. Siegfried Rehberger, who had initially contacted the Swiss firm, explained, "Being Germany's biggest recycling business, REMONDIS wants to take on a pioneering role as we look for ways to move forward into a post fossil fuel era. It is important that all possible options are tested, even those where the results are still unsure."

With its four electric motors (total of 680 PS), the new all-electric 'Futuricum' refuse vehicle should enable waste to be collected more quietly and with practically no emissions. What's more, it was specially developed to be driven in large cities so that it can deal with the challenges caused by the narrow streets and built-up areas. This trial primarily focused on the truck's ability to cope with the constant stopping and starting, typical of a standard waste collection route. On a normal day, an FES truck is expected to pick up 800 to 900 tonnes of residual waste within 8½ hours. These tests did not factor in a break at midday for the batteries to be recharged; the truck was not plugged into the rapid charger unit until it had returned to its base in the evening.

There are currently only two other companies offering all-electric waste collection trucks besides this Swiss manufacturer. At the moment, there are four 'Futuricum' vehicles, all of which are being used in Switzerland and have already successfully clocked up tens of thousands of kilometres. Rosemarie Heilig, head of the City of Frankfurt's



The Futuricum test vehicle, which is already being used in Switzerland (e.g. in the City of Thun), may soon be on Frankfurt's roads boasting FES' corporate design



The e-motors are run on lithium-ion batteries and have a capacity of between 170 and 340 kWh depending on the situation. The energy produced when the driver brakes is captured so it can be reused

“Being Germany’s biggest recycling business, REMONDIS wants to take on a pioneering role as we look for ways to move forward into a post fossil fuel era.”

Siegfried Rehberger, Managing Director of REMONDIS Südwest

This figure, however, includes a special tax benefit on electric lorries that is available in Switzerland but – as yet – not in Germany. Having said that, though, the price could fall. Designwerk has moved to a new site this year so it can begin a series production of this vehicle.

FES managing director, Dirk Remmert, was keen to point out that FES has, in fact, been using e-mobility since 2009. The company is currently trialling a prototype of a hybrid waste collection vehicle that runs on a combination of natural gas and electricity. Moreover, FES’ fleet also includes five electric-assisted bikes, five Segways, 14 electric cars and two electric utility vehicles.

environment office and chairperson of the FES supervisory board, took part in the occasion to make it clear just how important it is to her to find clean technology to drive down air pollution in the city: “We’re constantly talking about how we can improve air quality in our towns and how we might deal with a possible ban on vehicles entering the city. It is, therefore, really important for the city authorities and FES to be spearheading the movement to find pioneering, low emission technology for our vehicles. All forms of public transport will play a key role here as will the trucks needed to empty our city’s bins.”

However, it will not just be the test results that will determine whether there will be a fleet of Futuricum trucks on Frankfurt’s roads in the future. At the moment, the purchase price is approximately twice that of a standard diesel-run waste collection vehicle. According to the manufacturer’s calculations, the initial cost is amortised after eight years.

Futuricum Collect 26E
(CH green electricity)



Need some waste advice?



NABU DEVELOPS THE FIRST EVER ONLINE SEARCH PLATFORM FOR PEOPLE LOOKING TO GET ADVICE ABOUT WASTE MANAGEMENT IN THEIR REGION

Should drinks cartons be put into the paper bin or the recycling bin? What should I do with my jam jar lids? Many Germans are still not sure how best to separate their recyclables. NABU [German Nature and Biodiversity Conservation Union] has now set up an online search platform giving information about local waste advice centres so that people do not have to search the internet for hours on end or – even worse – throw their waste into the wrong bin.

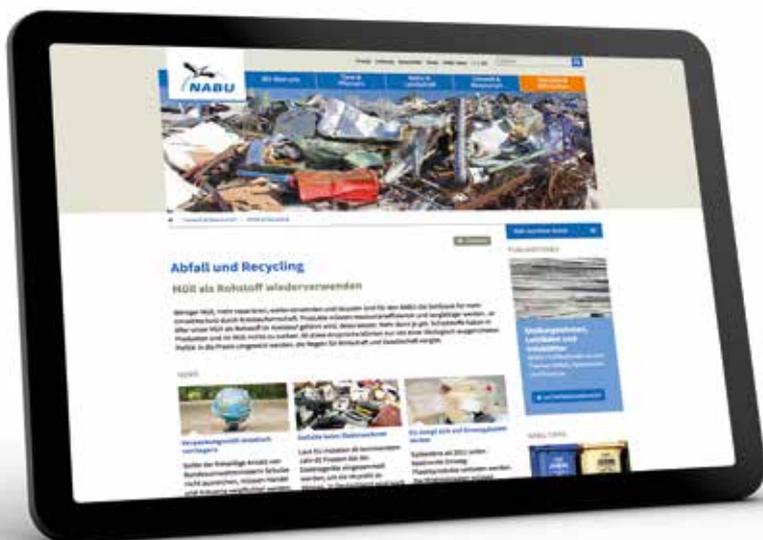
“Humans continue to be the most intelligent sorters. The way they separate their recyclables plays a crucial role in conserving natural resources and enabling valuable raw materials to be recovered for reuse.”

Herwart Wilms, REMONDIS Managing Director

The results of the search engine are based on the data collected by NABU. Users can enter their postcode or home town to find out who is responsible for giving advice in their region and what options are available to them there to reduce and separate their waste. Over 500 waste advice centres run by local authorities and recycling companies across the country can currently be found on the platform. “Humans continue to be the most intelligent sorters. The way they separate their recyclables plays a crucial role in conserving natural resources and enabling valuable raw materials to be recovered for reuse,” stressed Herwart Wilms, a managing director at REMONDIS, who is all in favour of this latest online search platform. “It’s very important that local inhabitants have someone they can turn to so that they separate their waste correctly,” Herwart Wilms concluded.

Both local authorities and recycling companies are obliged by law to make it as easy as possible for local inhabitants to separate their recyclables as well as to encourage them to reduce the amount of waste they produce so that valuable reusable materials do not end up in the residual waste bin. The options available to local residents however differ greatly from region to region: “Not everyone in Germany has access to waste advice at the moment. On the one hand, there are regions with some really interesting offers, such as crockery hire services and second-hand shops, while on the other, there are councils and firms that simply provide information about fees and bins. Things really need to change here,” explained Verena Bax, NABU resource expert, who was involved in developing this online search platform.

If there is to be systematic, high quality recycling across the whole of the country, then both the government in Berlin and the state parliaments must set minimum standards regarding the quality of waste advice that must be given and ensure that waste law is implemented consistently throughout Germany. This must include promoting an exchange of information between the different waste advice centres and introducing uniform waste segregation schemes including the recycling bin. NABU and REMONDIS are very much in agreement here. “Today’s society is consuming an ever increasing amount of to-go, single-use and short life products. Add this to the growing volumes of municipal waste and it becomes clear that effective systems need to be in place to conserve our planet’s natural resources,” Verena Bax said, summing up the situation.



Have you got a question about how best to separate your waste? Find out who to contact at nabu.de/abfallberatung

Greater sustainability for Melbourne

REMONDIS FURTHER DIVERSIFIES ITS ALREADY EXTENSIVE PORTFOLIO IN AUSTRALIA

REMONDIS continues to grow its business in Australia and now has the capacity to process liquid and solid industrial residue in a number of towns including Melbourne, the capital city of the state of Victoria. In January, REMONDIS acquired the Melbourne-based businesses, Eastern Liquid Services (ELS) and Organic Environmental Solutions (OES). Thanks to these takeovers, REMONDIS is not only able to operate in this field in the second-largest city on the Australian continent, it also now has all of the infrastructure needed to process liquid and solid materials from commercial, industrial and retail firms.

REMONDIS Service offers its customers a range of services including cleaning, maintaining and servicing wastewater treatment facilities, oil and petrol separators, grease traps, water separators at car washes as well as many other types of plants and facilities. The company's first step is to collect the residue from its many different customers, who range from car businesses and garages, to restaurants and catering businesses, all the way through to wastewater pipe operators. This is then treated and recycled in the liquid residue processing plant that OES commissioned in 2019. "We are expecting the demand for our services to increase in Melbourne – especially when it comes to servicing grease traps – as the city has such a high density of cafes and restaurants and its population is steadily growing year on year," commented Björn Becker, chief sales officer at REMONDIS, taking a look ahead at this customer and growth-oriented line of business.

Using state-of-the-art technology, this facility is able to handle around 4 million litres of liquid materials every month including old oil, wastewater from grease traps, industrial wastewater, bore slurry and rainwater from sewers. This acquisition has not only given REMONDIS access to this treatment facility but also to the company's extensive fleet. Operations manager, Dean Dowie, is also expecting business to grow in this popular coastal city: "We look forward to further extending our business operations so that we are well prepared for the upcoming growth in the city's population."

"We look forward to further extending our business operations so that we are well prepared for the upcoming growth in the city's population."

Dean Dowie, Operations Manager at REMONDIS



Organic waste not just for compost

CLEAN ENERGY AND HIGH QUALITY SOIL FROM ONE AND THE SAME FACILITY

The District of Unna has been using a new and innovative concept for processing its organic waste and green waste since the beginning of this year. Now that the construction of the new digester facility (in which GWA [Gesellschaft für Wertstoff- und Abfallwirtschaft Kreis Unna] owns a 51% share and REMONDIS a 49% share) has been completed at the Lippe Plant in Lünen, the energy content in the organic waste is now being transformed into combustible biogas before the material is sent on for composting.



The biogas is piped into the gas storage tank before being transformed into electricity by the three combined heat and power units



This state-of-the-art plant offers a number of key advantages: three combined heat and power units transform the gas generated by this system into electricity, which can then be fed into the national grid. At the same time, the waste heat helps to keep the fermentation process going and the most can be made of the resulting methane gas without it being released into the atmosphere. At the end of the day, methane gas is 25 times more harmful than CO₂ – a fact many people are unaware of. As a result, Bioenergie Kreis Unna GmbH or BKU, the company running the plant, is also helping to curb climate change. But that is not its only advantage: this system should also help cut waste charges as it is expected to reduce costs by 160,000 euros a year.

GWA had been wanting to transform organic waste into energy for a long while: "It simply wasn't viable to build and run a digester as we weren't handling sufficient volumes of organic waste," explained Andreas Gérard, managing director of GWA. Following a Europe-wide tender, however, GWA found an ideal partner with the privately run recycling, service and water company. "REMONDIS presented us with a robust concept for a site located in the District of Unna," Andreas Gérard continued.

25x

Methane gas is 25 times more harmful than CO₂

The strong-smelling waste air is fed through a bed of shredded roots, mulch and heather – cleaning it in the best possible way



REMONDIS has used this opportunity to build a high performance digester with a downstream composting plant.

Thanks to this new digester, the most can now be made of the energy content in the organic waste so that around 4.5 million kilowatt hours of electricity can be generated.

“Old fruit and vegetables and cut grass provide us with the energy we need,” explained Björn Zimmer, who is in charge of the new digester. Such residual materials are fed into the digester and mixed at a temperature of 56°C so that the gas can settle in the upper third of the tank and be extracted.

There is also a recycling solution for the low-energy materials: plant and tree cuttings, leaves and even old Christmas trees end up in one of the seven composting tunnels. Oxygen and heat are added to the material gradually transforming it into compost. “The compost or humus is ready after about two weeks. This is then processed so that it can be used, for example, by farmers and landscaping businesses to improve the nutrient content of their soils,” Björn Zimmer concluded.

Transforming organic residue into energy is an excellent addition to REMONDIS’ portfolio of services and further underlines the company’s mission to promote sustainability and tackle climate change. This is also the reason why the company’s composting plant in Lünen is not its only facility to be retrofitted – REMONDIS is currently building innovative biogas facilities at seven other locations as well.

“REMONDIS presented us with a robust concept for a site located in the District of Unna.”

Andreas Gérard, GWA Managing Director



REMEX helps keep snow centre open

GRANOVA® STABILISES THE INDOOR SNOW CENTRE IN BOTTROP

REMEX®

WORKING FOR THE FUTURE

The indoor snow centre, alpincenter Bottrop, opened its doors to the public in 2001 and is one of the biggest attractions in the Ruhr area, one of the most densely populated regions in Europe. Located on the site of an old mine, it was soon discovered that a number of the supporting pillars, on which the snow centre had been built, had shifted due to movement in the ground. This meant that the Bottrop city authorities had to set up a planning committee to find out how or if this problem could be solved. One thing was certain: a comprehensive solution had to be found if the centre and its impressive 640-metre ski slope were to be saved.

At the end of 2015, a robust concept – in every sense of the word – was developed for the alpincenter with the help of REMEX Mineralstoff GmbH. By combining REMEX's recycled aggregate (brand name: granova®), produced from incinerator bottom ash at its facility in Oberhausen, with AURUBIS' iron silicate sand, a by-product generated during its copper recycling processes, it was possible to create a material that more than met the requirements regarding stability, permeability and weight. Indeed, this project's biggest challenge was finding a material that not only had the suitable techni-

cal properties but was also available in sufficient quantities as 450,000m³ were needed to stabilise the centre. "We're really pleased that granova® was able to secure the future of the snow centre. The fact that our recycled product was used is not only good because it means people can continue to have fun there long into the future. It is also important as it helps combat the imminent shortage of mineral aggregate," explained Stephan Böcker, managing director of REMEX Oberhausen GmbH.



The project's biggest challenge was finding a material that not only had the suitable technical properties but was also available in sufficient quantities as

450,000m³

were needed to stabilise the centre



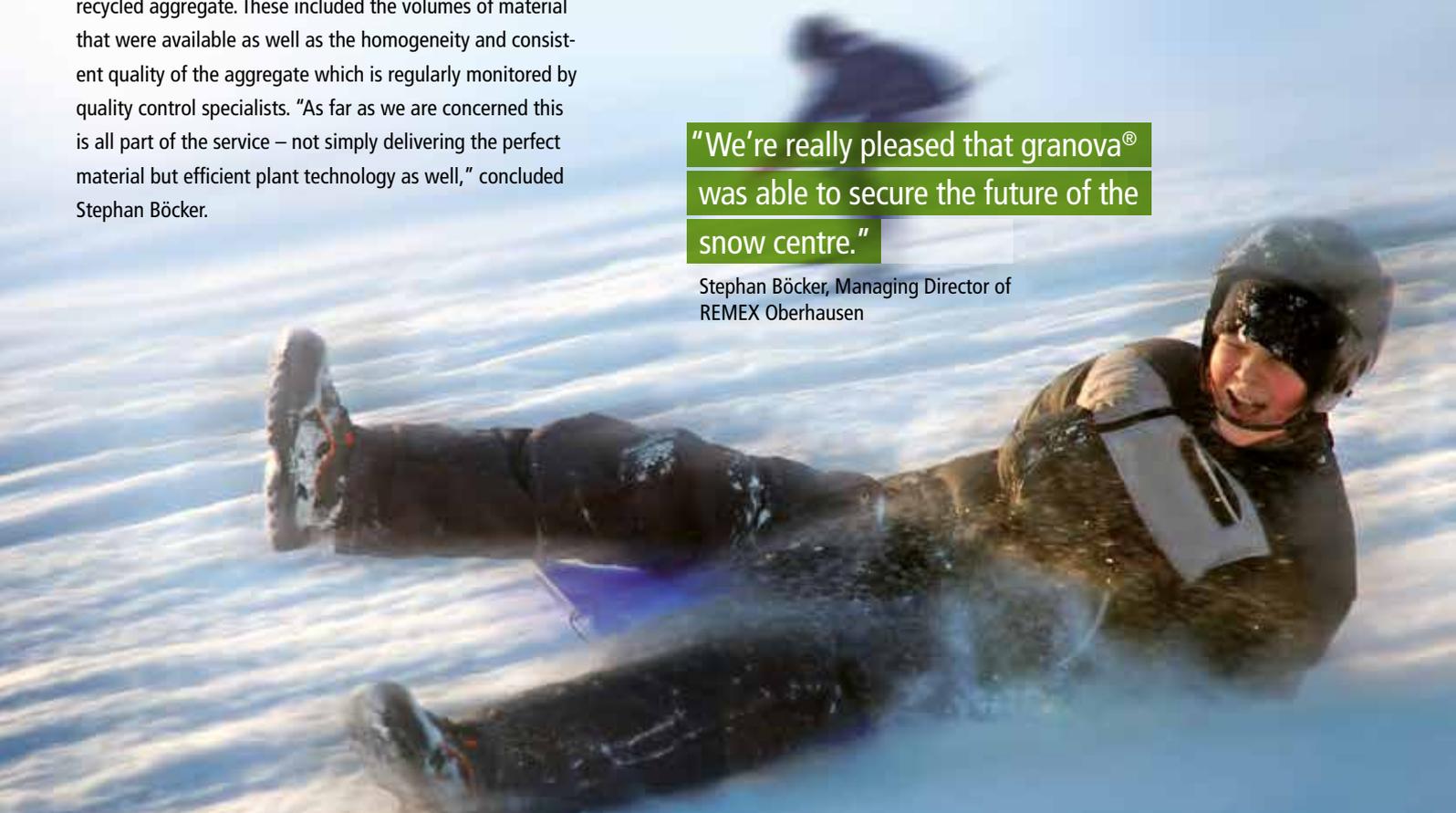
The snow centre in Bottrop can now remain open thanks to REMEX's recycled aggregate. This special mixture meets all the requirements regarding stability, permeability and weight

After a number of other scenarios had failed to meet the requirements for this project, REMEX's concept not only won over the City of Bottrop as the approval body but also the Ministry of the Environment in Düsseldorf and the district authorities in Münster. There were a number of pivotal reasons why REMEX and AURUBIS won the contract with their recycled aggregate. These included the volumes of material that were available as well as the homogeneity and consistent quality of the aggregate which is regularly monitored by quality control specialists. "As far as we are concerned this is all part of the service – not simply delivering the perfect material but efficient plant technology as well," concluded Stephan Böcker.

Being part of the REMONDIS Group, these mineral waste recycling experts have not only secured the future of the snow centre as a fun place for people to visit but has also helped conserve our planet's supplies of mineral aggregate. This recycled product helps promote sustainability and is in no way inferior to its naturally sourced counterpart.

"We're really pleased that granova® was able to secure the future of the snow centre."

Stephan Böcker, Managing Director of REMEX Oberhausen



Nimwegen's alternatives to natural gas

ARN IS PART OF A PUBLIC PRIVATE COLLABORATION LOOKING FOR WAYS TO SWITCH FROM FOSSIL FUEL TO RENEWABLE ENERGY

The Netherlands would like to stop extracting natural gas and it is planning to close down its operations in this area by 2030 at the very latest. To be able to do this, however, it needs to come up with some viable alternatives right now. Important developments are being made in this field in Nimwegen, where ARN is heading in new directions as part of a public private collaboration project.

The biogas is produced by capturing and liquefying carbon dioxide. It is then fed to market farms, reducing the amount of primary CO₂ generated by these businesses

The Netherlands is not only an important natural gas producer, it also has one of the biggest natural gas markets in Europe. The country's decision to stop producing gas by 2030 has automatically thrown up a pressing question: where will the supplies of gas be sourced in the future? As far as Gerard van Gorkum, managing director of ARN B.V., is concerned, the answer is staring us in the face: "The demand for green energy models will grow rapidly over the coming years." Being a supplier of climate-friendly energy, this Nimwegen-based firm is well prepared for this development.

ARN uses waste to produce energy, namely electricity, heat and biogas. Its operations not only help conserve our planet's fossil fuel reserves, it also cuts carbon emissions by more than 62,000 tonnes every year. REMONDIS has owned a 40% share in this Dutch company since 2006. The remaining shares are owned by public bodies, with the Nimwegen regional authorities being the biggest shareholder. Thanks to this public private venture, ARN has been able to steadily grow its activities over the last few years, positioning itself more and more as a high performance energy supplier.




62,000 tonnes
of CO₂
are saved by ARN
every year

Cooperation partners since 2013 (from left to right):
 Dr Andreas Krawczik, Managing Director of REMONDIS
 Niederlande, Gerard van Gorkum, Managing Director
 of ARN, Norbert Rethmann, Honorary Chairman of the
 Supervisory Board of the REMONDIS Group, and Dr Gerd
 Terbeck, Managing Director of REMONDIS Industrie
 Service Niederlande



Energy for several thousand households

The company's main line of business is producing electricity and heat from incinerating waste. To be able to do this, ARN cooperates with a German partner facility that has sufficient capacities and can guarantee a reliable supply of energy. For four years now, the company has been supplying households in a number of new residential areas in Nimwegen with heat. Thousands of customers have already been connected to their network; this number will have increased to 14,000 by the end of this project. Gerard van Gorkum commented, "This project has shown that ARN is able to supply a large part of the town with sustainable energy. Plans are for further town districts to be connected to the network in the future."

A further cooperation project with REMONDIS led to an innovative digester and composting plant being built for organic waste in 2013. Unlike in Germany, the biogas produced there is not used to generate electricity but is fed into a newly developed facility that is able to process it so it has the same quality as natural gas.

An important player as the region switches to green energy

ARN already plays a significant role in developing and implementing sustainable energy models in the region – a role that will continue to grow in importance. The company is already working on ways of delivering other forms of energy and has a number of plans besides its established business operations. There are a host of possibilities that can be explored. The gas produced by the company could, for example, be supplied to other households that are not connected to the district heat network. Alternatively, the gas could be

transformed into heat which could then be distributed via the existing network. Other options include solar energy as well as transforming electrical energy into hydrogen gas.



Collaboration opens up new opportunities

The region's efforts to switch to green energy are being helped greatly by ARN's public private set-up. The local authorities are primarily responsible for developing their region's energy supply. REMONDIS, however, can help drive innovations in this area and create the best possible framework conditions for long-term plans to be put in place. "The close cooperation work between the two parties enables the business to perform better and achieve more," explained Gerard van Gorkum. One thing is certain, he said: "It's definitely good when the public and private sectors collaborate as they can master the challenge of how to switch from fossil fuel to renewables together."



"This project has shown that ARN is able to supply a large part of the town with sustainable energy."

Gerard van Gorkum, Managing Director of ARN

From a bottle top to a rainwater storage block

SMART RAINWATER MANAGEMENT THANKS TO INNOVATIVE RECYCLING SYSTEMS

Coca-Cola European Partners Deutschland GmbH (CCEP), FRÄNKISCHE and REMONDIS have come up with a truly sustainable project for managing rainwater – a project that also helps protect the environment. First, the recycling experts REMONDIS transform CCEP's used bottle tops into high quality recycled plastic, which FRÄNKISCHE, a leading manufacturer of pipe systems, then uses to produce so-called Rigofill blocks. These blocks are used to make underground drainage systems – as a run-off and storage area for rainwater – giving the natural water cycle a helping hand in areas where humans have sealed off the surface. The Rigofill storage modules are not only of an excellent quality, they are also particularly environmentally friendly: FRÄNKISCHE manufactures them using top quality recycled plastic rather than virgin plastic.

High quality recycled plastic

No matter what the product, FRÄNKISCHE only ever uses quality-assured materials in its production processes. Its material of choice for its Rigofill blocks is PLANOPROP, a brand-name polypropylene product made by REMONDIS that has received a number of awards. Every year, over 2,700 tonnes of CO₂ are saved producing this recycled plastic compared to the production of virgin plastic. What's more, the recycled material more than meets the company's high quality requirements.

To be able to produce these recycled plastic pellets, REMONDIS first sorts, cuts up and washes CCEP's bottle tops before recycling them. It is essential that they are sorted and screened well to ensure that the plastic does not lose its material properties. PLANOPROP is particularly suitable for manufacturing products that need to be lightweight, stable and long-lasting. Being such a robust material, PP is perfect for the Rigofill system and meets the strict requirements of underground civil engineering work. When installed correctly, these storage blocks can last for many years. And, once the Rigofill block does finally come to the end of its useful life, the plastic can be recycled again – further underlining its green credentials. Conserving natural resources, recovering raw materials from products, keeping transport routes as short as possible and reducing carbon emissions – this is what sustainable industry must look like to safeguard the future.

Rainwater management with Rigofill

For over 20 years now, the pipe specialist FRÄNKISCHE has been developing and manufacturing a whole range of products and systems to manage rainwater. These products recreate the natural water cycle wherever it has been cut off. Huge swathes of land in developed countries are being covered in manmade structures. Surfaces are being sealed off by roads, squares and residential areas – not to mention industrial and trading estates – all of which prevent rainwater from being absorbed into the ground.

And if the rain can't seep into the ground, it will take another route. The results: flooded towns and falling groundwater levels, damaged infrastructure and buildings. The Rigofill system is used to prevent this happening: being a modular system, the blocks can be combined to create as big or as small a structure as needed. Once installed they form a drain that can temporarily store the pre-treated rainwater before gradually releasing it again. As the blocks are placed underground, they have to be particularly robust and able to withstand pressure caused by earth movement, traffic or indeed groundwater. This is where the combination of material used to make the Rigofill system plays such an important role. The Rigofill blocks are particularly strong, with the different types designed to fulfil a variety of requirements – from heavy traffic to quieter surfaces. All of the FRÄNKISCHE blocks have been made to last for at least 50 years.



The innovative material life cycle

1



REMONDIS uses old Coca Cola screw bottle tops to make its polypropylene.

2



Fränkische's Rigofill blocks are the company's first product line made using recycled plastic. This is great news for the environment.

3



These blocks are used to make underground drainage systems – as a run-off and storage area for rainwater – giving the natural water cycle a helping hand.





Kerbside hazmat collections

SAFETY TRUCK SAVES LOCAL CITIZENS THE TRIP TO THEIR HOUSEHOLD RECYCLING CENTRE

[Safety]Truck
DAS REMONDIS-SCHADSTOFFMOBIL

Households are full of hazardous waste. If these materials are thrown away incorrectly, they can put the whole family at risk. REMONDIS has a special Safety Truck that enables potentially hazardous materials, such as paint, varnish, batteries and chemicals, to be collected quickly and safely. Many local authorities – including the District of Ravensburg – have been impressed by REMONDIS' special vehicle and the convenient collection service it can provide. Werner Nitz, head of waste management in the District of Ravensburg, explains why.

Mr Nitz, the District of Ravensburg has been collaborating with REMONDIS Industrie Service in the area of hazmat collections for a while now. What services are being delivered here?

Werner Nitz: A total of 65 mobile collection points are organised close to households across the district once a year to enable local inhabitants to get rid of their hazardous waste. In 2018, we decided to make this service even more convenient for our residents by offering two different dates – one in the spring and one in the autumn. In January 2019, we then added a further alternative: residents can now hand in their hazardous waste to recycling centres, such as the Ravensburg-Gutenfurt centre, on a Friday afternoon.

Do you have any particular expectations when it comes to this service?

Werner Nitz: We expect the staff accepting the materials to be competent and polite.

What has the reaction of your local residents been to this mobile hazardous waste collection service?

Werner Nitz: This service has proven to be very popular indeed, especially the fixed monthly collection point that we have been offering since January 2019.

What are the collection rates of hazardous materials like in the District of Ravensburg?

Werner Nitz: All in all, we were able to increase the amount collected across the district to 154t in 2017. This figure lay at just 130t in 2016. However, with our average volume lying at 0.54kg per inhabitant, we are still below the average rate achieved by Baden-Württemberg, which lies at 0.75kg per resident per year.

Do you think this mobile hazmat service will help you to conserve more resources and protect the environment?

Werner Nitz: Yes, I do. By offering such a wide range of dates and collection points close to people's homes right across the district, I believe that our local residents will hand in these hazardous materials rather than throw them into the residual waste bin, which is, of course, not permitted.

What recommendations would you give other district authorities looking to set up efficient hazmat collection services?

Werner Nitz: We believe that the most efficient way to collect these materials is to have a combination of mobile collection points and one fixed day a month when the hazardous waste can be handed in to a household recycling centre. It is also the most convenient system for the residents.

"All in all, we were able to increase the amount collected across the district to 154 tonnes in 2017. This figure lay at just 130 tonnes in 2016."

Werner Nitz, Head of Waste Management in the District of Ravensburg



RESHARP – preventing sharps injuries

REMONDIS MEDISON DEVELOPS A NEW ONLINE SCHEME FOR STORING AND COLLECTING USED NEEDLES AND OTHER SHARP INSTRUMENTS

REMONDIS Medison, a leading provider of healthcare waste management solutions, has come up with an innovative, safe and easy-to-use solution for disposing of syringes and other sharp objects. Targeted at doctors' surgeries and home care services as well as industrial businesses, RESHARP stands out from the crowd with its unique combination of products and services.

"The customers receive special rigid bins that have been approved for storing sharps. When they are full, the bins are then collected free of charge by UPS. Which means that REMONDIS Medison's safe collection scheme also includes a full and innovative range of services," explained Vanessa Schürhoff, who is in charge of the project. This novel system not only considerably reduces the customers' workload, it also offers maximum levels of safety and flexibility. "Syringes that are to be sent for incineration can, in theory, be thrown away with residual waste. This can create problems, however, as they end up in the residual waste bin that can be accessed by anyone," said Vanessa Schürhoff, underlining the possible risks. Using the RESHARP scheme removes the potential hazards that come with disposing of sharps in the black bin.

The sharps bins can be ordered online whenever they are needed and payment is also simple as the platform offers a

variety of online payment methods. The clients themselves decide when they wish the full sharps bins to be collected. "If they don't want them to be collected, then they can simply hand them in to a UPS office," Vanessa Schürhoff continued. Discretion is also guaranteed as the scheme provides an unbroken chain of services from start to finish. Nobody has access to the RESHARP bins except REMONDIS and UPS which means they are collected and transported without anyone else noticing. RESHARP can be used for disposing of syringes as well as any other type of sharp or pointed instruments. This means, of course, that is not only a safe system for scalpels but also for used box cutters and razor blades found at industrial firms.

Being part of the REMONDIS Group, REMONDIS Medison has access to state-of-the-art processing and recycling technologies so that customers can rest assured that their old sharps are being handled and treated using environmentally sound processes.

 **RESHARP**



The RESHARP bins can be ordered online at resharp-shop.de



The approved RESHARP bins are made of a rigid material so that sharps can be safely stored and transported. The bins are collected free of charge



Turning theory into practice

XERVON IS DRIVING FORWARD DIGITAL PREDICTIVE MAINTENANCE SOLUTIONS

The maintenance sector is on the verge of undergoing a fundamental paradigm shift: digitisation and high-tech are paving the way for predictive applications. XERVON Instandhaltung, XERVON's maintenance specialists, are embracing these innovative opportunities and developing practical options that will offer customers some key advantages, especially in the areas of efficiency and cost effectiveness.

XERVON is constantly screening the market to identify technologies that will be of use to its customers and managing trends with its trend radar

When it comes to maintaining rotating equipment, such as turbines, pumps and compressors, it is condition monitoring that is the measure of all things nowadays. This type of maintenance system takes online and offline measurements to gather information about a machine's condition and sets certain limit values. Deviations can be spotted immediately, enabling suitable countermeasures to be taken in good time.

New opportunities are opening up here, too. Technological progress and recent developments, such as 'machine learning' and 'big data', are making it possible for a level of maintenance to be achieved that gives us an idea of what things will be like in the future. At the centre of all of this are the predictive maintenance systems. They act as an early warning system, predicting what will go wrong in the future and enabling faults to be prevented before they actually occur.

A key innovation of Industry 4.0

The field of predictive maintenance may still only be in its infancy but it is already being heralded as one of the key innovations of Industry 4.0. Which also explains why XERVON has been focusing its attention on growing its own application-related know-how in this area for a while now. Its goal here is to add predictive maintenance solutions to its portfolio of services that will open up some interesting prospects for its customers. These systems will offer a whole range of advantages – especially when it comes to increasing plant availability. According to a McKinsey study, around half of all machine and plant downtime will be able to be prevented with predictive maintenance



By growing its expertise, XERVON Instandhaltung has become an adept partner for IoT applications as well





The core idea behind XERVON Instandhaltung's projects is to use machine learning to make plants and facilities smarter

The core idea behind XERVON Instandhaltung's projects is to use machine learning to make plants and facilities smarter. The data that the sensors collect about the condition of the machinery is added to other information – for example data about the ambient temperature or humidity. All this data is then analysed using state-of-the-art technology that enables anomalous patterns to be picked up. This in turn makes it possible to predict problems that may occur in the future.

An award from the intelligence of Things initiative

XERVON is combining its extensive maintenance expertise with its IT and digitisation know-how in order to be able to offer its customers practical solutions in this field. At the heart of all this data is an IoT platform. Its task is to merge the information gathered from the different types of technologies and platforms and connect it to database inventories.

It was possible to see just how far XERVON has already progressed in this area during the intelligence of Things competition organised by SAP's consultancy business, intelligence. Facing competition from a total of 25 companies, XERVON's concept was awarded one of the main prizes. Work is already being put into implementing this concept, for example on the pumps and motors used in cooling towers. Predictive maintenance allows these important components of the cooling water supply system to be controlled at the best possible operating point and to determine exactly when

they should be switched on and off. What's more, the operating hours can be spread intelligently across the different pumps. This makes the whole business far more efficient, reduces electricity consumption and cuts costs. Furthermore, there is less wear and tear which means greater plant availability and fewer maintenance costs.

Putting the system to the test

XERVON recently set up its own test stand at the ChemTech Hackathon in Cologne in order to bring its work in this area a few steps closer to being put into practice as well as to generate some new ideas. During the event, specialists from the chemicals industry and the world of IT looked at the innovations that might reconcile the challenges faced by both areas. It was made clear here that XERVON's model could indeed be realised, taking it one step closer towards making it to market.



Cutting costs, optimising operating conditions, minimising downtime: predictive maintenance offers customers a whole host of advantages

XERVON®
WORKING FOR THE FUTURE



The predictive maintenance project submitted by XERVON to the intelligence of Things competition was awarded one of the main prizes. Mark Albrecht, Vice President Global Head of Innovation at intelligence AG, presented the prize to Tim Grylewicz, Head of Digitisation at XERVON Instandhaltung, and Alexa Kopp, Head of Project Management at XERVON Instandhaltung (from right to left)

A shorter shutdown thanks to bespoke solutions

BUCHEN KRAFTWERKSERVICE CUTS THE TIME NEEDED TO COMPLETE A TURNAROUND IN ESSEN-KARNAP

BUCHEN®
WORKING FOR THE FUTURE

One of the best ways to speed up shutdowns and get a plant up and running again in as short a time as possible is to deliver tailor-made services. As could be seen at the large-scale turnaround carried out at the waste-to-energy (WtE) plant in Essen-Karnap in 2018. By tailoring its services to meet its client's precise needs, BUCHEN KraftwerkService was once again able to show just how flexible it is at planning and performing such projects, especially when it comes to cleaning boilers.

Over 740,000 tonnes of throughput material a year, 130 megajoules of district heat a second and around 50 megawatts of electricity – the waste-to-energy plant in Essen-Karnap is one of the largest of its kind in Germany. Three towns – 1 million local residents in all – benefit from the plant's services. It is, therefore, very important for the region.

The operator of this facility, RWE Generation, has been working together with BUCHEN KraftwerkService for many years now to ensure the technology at the WtE plant runs smoothly. The focus of this work is on industrial cleaning tasks – both when the plant is online and offline. During the 2018 turnaround, which involved the whole of the plant being shut down for several weeks, BUCHEN KraftwerkService

was in charge of all cleaning work needed for the four lines as well as the services involving the flue gas cleaning system.

Customised services required

It became clear while planning the work that a number of tailor-made services would be needed to complete the project – especially for cleaning the boilers. Two tasks, in particular, required special solutions: on the one hand, other tradespeople had to start carrying out their jobs in boilers 1 and 2 before the cleaning work had been completed owing to the tight schedule; on the other, an alternative had to be found for removing the dust so that the ID fan could also be overhauled.

BUCHEN KraftwerkService provides services for conventional power stations, waste-to-energy plants and industrial boilers



able to carry out their work in the lower section where the boiler had already been cleaned. At the same time, BUCHEN KraftwerkService continued its own work cleaning the upper section of the boiler. The dislodged residue was collected on the upper platform, protecting those working below. With the different teams working like this for a week, several days were able to be shaved off the time needed for the shutdown.

Heavy-duty vacuum units in action

Heavy-duty vacuum units are a must for extracting dust from boilers. Which is why the plant's own ID fans play an important role during shutdowns. This time, however, BUCHEN KraftwerkService took over this job itself to free up the WtE plant's own fan. The company's unusually large stock of specialist equipment had everything needed for this task so that four dust extraction units (output: up to 35,000m³ per hour) could be placed above and below the work platform.



Advice, cleaning services, remediation work and waste management – BUCHEN KraftwerkService's portfolio covers all tasks and all plant sections

Working at two levels

Detonative technology was used to perform the safety cleaning work in boilers 1 and 2 to speed up the whole process. This allowed large volumes of deposits to be dislodged from the walls and broken up while the boilers were still cooling down. The dislodged material was also able to be extracted while it was still hot. Two parallel extraction points and a special skip delivery system helped to further cut the time needed.

A special work platform was set up for the subsequent sandblasting work to partition the area off. Pulled into the industrial furnace horizontally, it was then erected so that it had two separate work areas. Other specialists were

All in all, BUCHEN KraftwerkService needed three weeks to carry out their tasks during this particular shutdown at the waste-to-energy plant. The teams worked around the clock in two shifts – with up to 60 operatives present in boilers 1 and 2 at any one time. Over a dozen blasting specialists worked side by side every shift – several hundred tonnes of blasting media was used during this short period.

The project had been preceded by months of meticulous planning and preparation work and three weeks were also needed before and after to set up and dismantle the equipment. The bespoke solutions were drawn up during the planning phase and added to the schedule straight away to ensure everything went smoothly during the turnaround.



The teams worked around the clock in two shifts with boilers 1 and 2 filled with up to

60 operatives

Over a dozen blasting specialists worked side by side every shift



Water from Hamburg – phosphorus for the world

HAMBURG WASSER AND REMONDIS TO BUILD THE WORLD'S FIRST PHOSPHORUS RECOVERY FACILITY USING REMONDIS' TETRAPHOS® PROCESS



PHOSPHOR-RECYCLING
HAMBURG

On 01 March, HAMBURG WASSER and REMONDIS were joined by Hamburg's First Mayor, Dr Peter Tschentscher, and Hamburg's environment and energy senator, Jens Kerstan, to lay the foundation stone for the world's first phosphorus recovery facility at Hamburg's sewage treatment plant. The project (for which the two partners founded the new company Hamburger Phosphorrecyclinggesellschaft mbH) will be acting as a role model beyond the German borders as well. Thanks to TetraPhos®, a process developed by REMONDIS, this vital substance will be able to be recovered from wastewater in Hamburg cost efficiently and on an industrial scale. The facility at Hamburg's sewage treatment plant will be commissioned in 2020 and will be able to produce around 7,000 tonnes of ultrapure phosphoric acid from 20,000 tonnes of sewage sludge ash every year.



From the drawing board to industrial scale operations: HAMBURG WASSER and REMONDIS Aqua's phosphorus recovery facility is a great example of how natural resources can be conserved in the future

Global reserves of phosphorus are finite and yet the demand for this substance is growing all the time. According to the UBA [Federal Environment Agency], demand will have exceeded supply by 2070. Thanks to this new phosphorus recovery facility, REMONDIS and HAMBURG WASSER are demonstrating how local authorities can help stave off this approaching global shortage. If all the operators of German sewage treatment plants were to follow Hamburg's example, then imports of phosphorus could be cut by 60%.

At the moment, all of the phosphorus needed by Germany has to be imported. Approximately 230,000 tonnes of this raw material are used for fertilising the country's fields every year. It is vital for plant growth – and, as a result, for food production in general. This means, of course, that recovering phosphorus will become ever more important.

The German government has stipulated that phosphorus must, by law, be recovered from wastewater and returned to production cycles by 2029 at the latest.

HAMBURG WASSER will be the first municipal wastewater treatment business to fulfil this new law thanks to REMONDIS' TetraPhos® process.

The project is being supported by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) as well as by the BMU's Environmental Innovation Programme.

Hamburg's First Mayor Dr Peter Tschentscher welcomed HAMBURG WASSER and REMONDIS' pioneering project: "Building this phosphorus recovery facility is an important project for Hamburg as an innovative business location. Recovering phosphorus lessens the impact humans have on the environment and enables a valuable substance to be reused. By building this facility, Hamburg's sewage treatment plant is delivering a future-proof solution and setting new standards for countries all around the world."

Jens Kerstan, chairman of the supervisory board of HAMBURG WASSER and environment senator, was very pleased to see the project, which had been inaugurated by him back in 2015, being set up on an industrial scale: "Germany imports thousands of tonnes of phosphorus every year even though large volumes of this substance can be found in our own sewage treatment plants. Recovering phosphorus is an excellent example of how a sustainable business can be run in times of dwindling resources," he explained.



REMONDIS' TetraPhos process will help reduce the country's dependency on phosphate imports, prevent a supply shortage and lessen the impact humans have on the environment

“Wastewater contains large amounts of energy and raw materials and it is our goal to make the very most of this never-ending source. We are already recovering more energy from wastewater than is needed for a small town. By building the new phosphorus recovery facility, we are turning our sewage treatment plant into an urban mine where we can source raw materials and help conserve our planet’s natural resources,” commented Nathalie Leroy, managing director of HAMBURG WASSER. “We are also expanding our sewage sludge incineration system to make even more of the energy potential in the sewage sludge. This will allow us to generate more energy and ensure that we can handle the volumes sent to us – providing a reliable service both for the city as it continues to grow and for our municipal partners.”

Max Arnold Köttgen, board member of REMONDIS SE & Co. KG, explained: “Recovering phosphorus using REMONDIS’ TetraPhos® process meets both the expectations of the public and our social responsibility to protect natural resources. This system was developed by REMONDIS and is yet another example of how innovative our business is. It also clearly shows that recycling can be cost effective. Thanks to this system, we have not only already succeeded in meeting statutory requirements that will come into force in the future, we have also further cemented our long-standing collaboration work with the City of Hamburg.”

“Building this phosphorus recovery facility is an important project for Hamburg as an innovative business location. Recovering phosphorus lessens the impact humans have on the environment and enables a valuable substance to be reused.”

Dr Peter Tschentscher, Hamburg’s First Mayor



The foundation stone, which also symbolised the great collaboration work, was laid by (from left to right) Nathalie Leroy, Managing Director of HAMBURG WASSER, Dr Peter Tschentscher, Hamburg’s First Mayor, Jens Kerstan, Chairman of the supervisory board of HAMBURG WASSER and Environment Senator, Norbert Rethmann, Honorary Chairman of the Supervisory Board of the REMONDIS Group, and Max Arnold Köttgen, REMONDIS Board Member

Keeping the water flowing

NEW WATERWORKS IN GROSS BÄBELIN SUPPLIES AROUND 5,500 LOCAL RESIDENTS WITH QUALITY DRINKING WATER

Wasserversorgungs- und Abwasserzweckverband Güstrow-Bützow-Sternberg, aka WAZ, and EURAWASSER Nord GmbH officially opened their new waterworks in Groß Babelin at the end of last year. Numerous guests attended the event to celebrate the successful completion of the water association's Krakow am See concept.

This comprehensive concept has included the construction of a state-of-the-art plant for sourcing, transporting, processing and supplying high quality drinking water, a drinking water pipe network stretching eleven kilometres around the Krakower See [Krakow Lake] and the construction of a new drinking water tank with a pressure station – all of which will ensure that the area continues to have a reliable supply of top quality water.

The Krakow am See and Groß Babelin waterworks, which had previously supplied the town of Krakow am See and 21 other villages with water, are to be shut down and dismantled as the approx. 5,500 local residents will now all get their drinking water from the new waterworks. WAZ and EURAWASSER's decision to build this new plant had been in response to the deterioration in the quality of the raw water that was in danger of impacting on the quality of the drinking water.

"The Rathmann moorlands, residue from a garden centre and a landfill were having a negative effect on the quality of the water. Thanks to this new facility, local residents

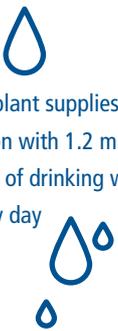
now have a safe supply of water that will last far into the future," confirmed Katja Gödke, managing director of WAZ, and Robert Ristow, managing director of EURAWASSER.

The new waterworks will benefit both the local residents and the many tourists travelling to this popular holiday destination. "The number of tourists – and consequently the need for drinking water – is expected to continue to rise and this plant will be able to cover this increased demand in the future. The plant supplies the region with 1.2 million litres of drinking water every day," explained Robert Ristow. As a REMONDIS Aqua subsidiary, both WAZ and EURAWASSER Nord focused on the environmental aspects when looking to guarantee the quality of the water. And this is the reason why the plant extracts and processes water from wells around 125 metres below ground as at this depth there is no risk of there being any harmful environmental factors.

With the construction of the plant costing 4.6 million euros, this is the biggest single investment ever made by WAZ. Amid applause from the mayors, local residents and representatives from the construction firms, district administrator Sebastian Constien, the chairman of WAZ, Christian Gruschow, the managing director of WAZ, Katja Gödke, the managing director of EURAWASSER, Robert Ristow, head of the Krakow am See department, Wilfried Baldermann, and the mayor of Krakow am See, Wolfgang Geistert, together pushed the start button, officially putting the waterworks into operation.

(from left to right) Mayor Wilfried Baldermann, District Administrator Sebastian Constien, Robert Ristow (EURAWASSER), Mayor Wolfgang Geistert, Katja Gödke and Christian Gruschow (both WAZ) officially putting the waterworks into operation

The plant supplies the region with 1.2 million litres of drinking water every day



Smart cities well within reach

WALTER TECYARD LAUNCHES INNOVATIVE SENSOR TECHNOLOGY AND BIOMONITORING PROJECTS

Walter Tecyard GmbH & Co. KG became part of the REMONDIS Group in October 2018 when REMONDIS Aqua Industrie GmbH & Co. KG purchased a majority share in this young company. Walter Tecyard, a technology firm based in Kiel in the north of Germany, is leading the way when it comes to digitising water management, making it a perfect fit for REMONDIS Aqua's business.

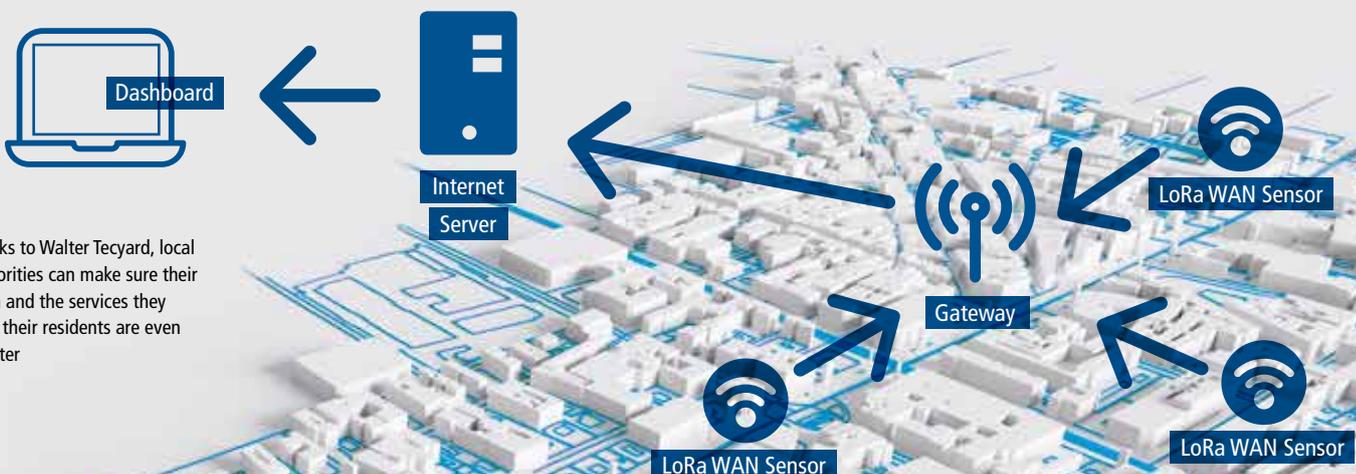
Walter Tecyard provides smart services with its sensor technology and biomonitoring innovations. It has developed a series of systems that work together perfectly to record and process data and so ensure that municipal and industrial networks operate smoothly. Drinking water networks are monitored regularly and protected from unauthorised access. It is not, however, always possible to permanently monitor these networks or to carry out checks beyond the normal parameters. These gaps can now be filled by the SensaGuard system. This biomonitoring system uses the freshwater shrimp, *Gammarus pulex*, as an indicator organism to detect even the smallest change in the quality of the water. "Freshwater shrimps live in clean, oxygen-rich waters and react immediately to the slightest physical change or to the presence of pollutants," explained Dr Axel Leybold, managing director of Walter Tecyard. As a result, raw water and drinking water can be monitored online – permanently and transparently – making it possible for the system operators to respond more quickly to incidents. The challenge of sensor technology is to be able to offer an integral system that enables all the different pieces of information to be recorded and merged together.

"There are plenty of companies supplying the individual components. What we – and just a handful of other firms do – is to unite all these modules to provide one meaningful system."

Benedikt Winkelmann, Managing Director of Walter Tecyard

Walter Tecyard already uses tried and tested sensors and gateways as well as data processing and back end solutions. "There are plenty of companies supplying the individual components. What we – and just a handful of other firms do – is to unite all these modules to provide one meaningful system," commented Benedikt Winkelmann, managing director of Walter Tecyard. The sensors can work for long periods of time without requiring an external energy supply and the data can be transmitted above ground or from the network of pipes and shafts. The system is installed in line with the 'plug and play' principle. The data is then evaluated and made available online on a customised dashboard. The first projects have already begun in Kiel, Copenhagen and Hamburg. This is a simple and safe way for local authorities to create an intelligent network within their infrastructure and ensure they have a secure supply of water. Walter Tecyard and REMONDIS are, therefore, helping smooth the way towards setting up smart cities.

SensaGuard fills an important gap in drinking water monitoring systems and can detect even the slightest change in the quality of the water



Thanks to Walter Tecyard, local authorities can make sure their town and the services they offer their residents are even smarter

Behind the scenes in Goslar

HOW THE PUBLIC PRIVATE PARTNERSHIP BETWEEN EURAWASSER AND THE CITY OF GOSLAR BECAME SUCH A SUCCESS

Up to five million people visit the 1,000-year-old imperial city of Goslar and the Harz national park every single year. Offering such a wide range of leisure activities, this region is well worth a visit no matter what time of the year it may be. It is, however, not only a popular destination for hiking, mountain biking and skiing. People from across Germany travel to the city to attend its many special events, such as the annual presentation of the Kaiser-ring [Emporer's Ring] art prize and the Verkehrsgerichtstag, a forum focusing on traffic law and policies. All very good reasons, therefore, for taking a look behind the scenes at the town and at EURAWASSER Betriebsführungs-gesellschaft mbH Goslar, a REMONDIS Group subsidiary.





30 March

Many volunteers took part in the Goslar Clean-up Day which was held on 30 March. Their task: to spruce up the town's streets, parks and paths

Goslar and EURAWASSER – a success story

The public private partnership between the City of Goslar and EURAWASSER began back in 1996. The city council's decision back then to find a private sector partner to help it convert its sewage treatment plant and drainage system proved to be one that triggered a genuine success story. It resulted in the foundation of the new firm EURAWASSER Betriebsführungsgesellschaft with 30 employees and in the city's drainage system being improved. It has also led to all of the plants, facilities and equipment being modernised – including the 400km+ sewer network, the central sewage treatment plant (extended to handle wastewater from more than 100,000 inhabitants) and over 20 special structures as well as all of the plant and working equipment and vehicles. Over the years, this public private partnership (City of Goslar: 51% share, EURAWASSER: 49% share) has invested more than 43 million euros in extending, renewing and converting the wastewater pipe network and the sewage treatment plant. With the partnership proving to be such a success, the City of Goslar made the decision in 2003 to put EURAWASSER in charge of a number of other tasks as well. These new services – cleaning the streets, emptying the waste bins and taking over some winter services – led to the creation of 16 new jobs and a new business division, which is now responsible for ensuring that Goslar's historical city centre, a UNESCO world heritage site, remains clean and tidy.

Know-how needed in the Harz region as well

Over the years, EURAWASSER Betriebsführungsgesellschaft has developed from simply being the operator of the city's



Holger Fricke, Managing Director of EURAWASSER Betriebsführungsgesellschaft mbH, regularly takes part in the Clean-up Days

wastewater system into a provider of an extensive portfolio of environmental services for both the public and private sectors. It now serves municipal and commercial businesses across the whole of the Harz region in the German states of Lower Saxony, Saxony-Anhalt and Thuringia. Its commercial, industrial and municipal customers make the most of its range of services to ensure their grounds and premises are kept clear of snow, dirt and overgrown plants. According to Michael Figge, managing director of EURAWASSER Betriebsführungsgesellschaft, one of the main reasons why EURAWASSER has been able to enter into so many new fields of business has been the close ties it has with its customers. "We are continuously further developing our business, both in the area of technology and sales. We are able to do this by remaining in close contact with our customers, partners and universities, such as the Clausthal University of Technology," explained Michael Figge, who, together with his colleague Holger Fricke, will be doing everything in his power to ensure the company's positive development continues well into the future.



Research subjects, such as the Goslar sewage treatment plant's "Bio fuel cell" pilot project, promote collaboration work with prestigious universities. The possibility of generating energy from wastewater and sewage sludge has attracted wide interest – as has REMONDIS' TetraPhos® process, a system used to recover phosphorus from sewage sludge ash

TU Dortmund and REMONDIS join forces to look at skills shortages



Nine undergraduates studying at the Marketing Department at Dortmund Technical University recently took part in a project seminar to take a closer look at skills shortages. As part of this project, they collaborated with REMONDIS' HR marketing team in Lünen. They focused their attention on a number of different areas – analysing the company's careers website as well as the external and in-house HR marketing measures for finding professional truck drivers. Over a period of several weeks, the students held interviews with the employees and surveyed people from outside the company. They also took a close look at the careers website to see just how user friendly it is. Their findings, which were officially presented in February, have helped the company to further improve their in-house processes and even given the team ideas for new HR marketing measures.

Guided tours around the Lippe Plant can now be booked online

A new online service was launched in November 2018 to enable members of the public to book a guided tour around the Lippe Plant. Available on the Lippe Plant website (remondis-lippe-plant.com), this is a convenient and easy way for groups to contact REMONDIS and access Europe's largest industrial

recycling centre. This is a great opportunity for visitors to see the recycling facilities up close and discover how old products are transformed into reusable raw materials. People interested in visiting the site can read about the recycling plants and processes beforehand by taking a look through the Lippe Plant website. Guided tours are held for external groups on Tuesdays and Thursdays at 9am, 12 noon and 3pm. Customers, prospective customers, politicians and journalists should contact Carina Hölscher to arrange an appointment to see the site.



remondis-lippe-plant.com

WAL-Betrieb puts together a team of pump experts

Pumps have their own special niche in the world of technology – and if they don't work properly, our everyday life deteriorates into chaos. Well aware of the importance of these machines, WAL-Betrieb recently decided to set up a sister company, Lausitzer Pumpenservice GmbH, as a specialist regional business dedicated to providing pump services. The new firm's managing directors, Stefan Voß (responsible for the commercial side of the business) and Steven Müller, (in charge of technology), believe there is a huge potential in this area and is expecting there to be a big demand for the new portfolio. "The idea came to us as we ourselves have to deal with a whole range of pumps every day – different makes, different designs and different sizes. Our own operatives have gathered extensive experience and know-how over the years," Stefan Voß continued. His colleague Steven Müller added: "Having worked together with manufacturers and partners, we are well aware that competent advice and planning play a vital role in ensuring pumps work cost



effectively and reliably. It was simply the next logical step to say that we can and wish to offer pump services in the Lausitz region." Further information (German only) is available at lausitzer-pumpenservice.de



FC Ingolstadt wins the REMONDIS Cup

The Bavarian U17 (juniors) indoor football tournament has a winner: cheered on by around 300 spectators, FC Ingolstadt beat SC Eintracht Freising 3-2.

"I really appreciate this partnership and the company's support for youth football."

Florian Weißmann, head of the association's youth division

The team, led by their trainer Patrick Kaupp, won the final having got through a nail-biting penalty shoot-out. "Many congratulations to the winning team. It was an exciting and, for the most part, evenly matched tournament. A special thank you as well to REMONDIS – I really appreciate this partnership and the company's support for youth football. I hope it will continue long into the future," commented Florian Weißmann, head of the association's youth division. Björn Tenger, who attended the event as REMONDIS' local project manager, was pleased to see that the tournament was "such a resounding success".



FC Ingolstadt celebrating winning this year's REMONDIS Cup

Without words!

THE SORTERS, MARKO IDZANOVIC AND BURHAN YORULMAZ,
BRING A SMILE TO THEIR BOSS'S FACE

"They are my secret weapon," reveals Dennis Koole. He is REMONDIS' project leader at the former Opel factory in Bochum and is proud to have these two sorters on his team. A few months back, though, he had been unsure whether to take them on or not as both Marko Idzanovic (51) and Burhan Yorulmaz (28) are deaf. Dennis Koole, however, decided to give them this opportunity.

Both Marko and Burhan's body language makes it very clear just how grateful they are. In fact, Marko would like to stay and work at the plant until he retires – there is nothing else he would rather do. It was love that brought him to Germany last year; he had previously worked as a construction site assistant in Croatia. Burhan's dream is to become a pilot but this will certainly be very difficult. He is not even allowed to use his fork-lift truck licence at the plant in Bochum. It is simply too much of a risk. He himself believes that it is not a problem for him to drive a fork-lift truck but the company is not so sure. Marko and Burhan are both keen supporters of digitisation as any form of technology that automatically transforms the spoken word into the written word or that can provide visual driver assistance will help bring 'normality' into their lives. And this is also the reason why they always have their mobile on them as they communicate with their colleagues via the phone's screen. They use their own language, of course, when they talk to one another.

Marko could only communicate using Croatian sign language before he came to Germany but it only took him a few weeks to learn the German equivalent. Sign language differs from country to country.

The sign for waste – a gesture showing something being thrown away – is similar in many countries. As there is not a specific sign for recycling, the two use the sign that means making something new from something old. Which describes their work perfectly. Every month, they sort 42 tonnes of cardboard, 20 tonnes of wood, 4 tonnes of plastic film, 12 tonnes of scrap metal as well as aluminium and cables so that they can be recycled and reused to make new products – helping to conserve our planet's natural resources and protect the environment. The more the better, as far as they are concerned. Indeed, the sight of any unsorted materials – no matter how small the amount – makes them nervous. They hate seeing their workplace untidy.

"No-one else works as hard or as fast as they do," commented Paul Gessner, their team and shift leader. All of their colleagues have learned the most important signs to make them feel at home in their team. Marko and Burhan have proven to be a great asset. "Their hard work, their self-irony, their mindfulness and, above all, their ability to see and note exactly what's going on around them – these are things we can all learn from. They are a role model for us all and I'm going to do everything possible to make sure they never want to leave," Paul Gessner concluded.



**"No-one else works as hard
or as fast as they do."**

Paul Gessner, Team & Shift Leader

IMPRESSIONS



◀ Dr Peter Tschentscher, Hamburg's First Mayor, Nathalie Leroy, Managing Director of Hamburg Wasser, Max Arnold Köttgen, REMONDIS Board Member, and Ingo Hannemann, Managing Director of Hamburg Wasser, (from left to right) were all pleased to see the first phosphorus recovery facility being built in the harbour city

The team of REMONDIS and Hamburg Wasser employees can be proud of the work they have performed to get this project off the ground



Senior Press Officer Michael Schneider ▶ had a lively discussion about possible incentive schemes that politicians could introduce to promote recycling with German Environment Minister Svenja Schulze and NRW Environment Minister Ursula Heinen-Esser at the Climate Forum held by Klimadiskurs NRW



◀ Tilman Kuben (2nd from left), Chairman of the 'Junge Union' (German Young Conservatives), visited the Lippe Plant with his team to see for himself how recycling can help conserve natural resources

14 young adults completed their apprenticeship at Lausitzer Wasser GmbH to become a plant mechanic – average grade: 1.9 (good); a particularly impressive performance was made by Majid Asgarizadeh (left), who came to Germany just five years ago and was able to shorten his course to two years thanks to the qualifications he had already gained in Iran and his excellent German language skills



They were welcomed by Ludger Rethmann, Board Chairman of the REMONDIS Group (5th from left), and Herwart Wilms, REMONDIS Managing Director (2nd from left)

What will be left of you in 400 years' time? Your plastic rubbish

You just need to take a look at our oceans: carelessly discarded plastic causes huge problems. Which is why we're making the most of every opportunity to invest in better plastics sorting and recycling technology and promote innovative processes to further improve the quality of recycled plastic. And, of course, this is a great way to help tackle climate change as well.

REMONDIS SE & Co. KG // Brunnenstr. 138 // 44536 Lünen // Germany // T +49 2306 106-0 // F +49 2306 106-100 // info@remondis.de // remondis.com

