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MGG

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Dear Readers,

Global warming, plastic islands in the world's oceans and the scarcity of raw materials – there are many reasons to promote recycling rapidly in all areas. Unfortunately, as a recycling company, we are repeatedly confronted with unexpected obstacles.

A concrete example is the cross-border transport of waste – such as waste fractions from electrical and electronic equipment – for the production of secondary raw materials within the EU. Innumerable and non-harmonized rules make it impossible to obtain the necessary notifications quickly. In one case, for example, we have been waiting since 2016 for the authorities to give their consent for deliveries from Germany to Austria. An unacceptable situation. For this reason, we have been advancing the "Fast Track Notification" project for some time now. The aim is to considerably simplify and speed up the procedures for notifications. We are therefore pleased that a first pilot project for "Fast Track Notification" with the Dutch company HKS-Metals is planned to start in early 2019. The project is to save time and costs for both the authorities and for us as recyclers without creating additional environmental risks.

Another obstacle that could arise in the future is a current recast of the EU POP Regulation, particularly regarding some brominated flame retardants in plastics. This could make it impossible to recycle plastics from old electrical appliances. For this reason, the Müller-Guttenbrunn Group has made massive efforts at all levels in recent months to develop a sensible solution in this area for the entire recycling industry.

In the MGG companies, our employees work on transforming obstacles into solutions through innovative ideas. An example of this is our "Bobby-Car Project" with which we are helping to prevent the incineration of recyclable solid plastics from durable goods. In 2018, we were already able to recycle 900 tonnes of these solid plastics in this way. This is another important step towards re-inserting these materials as secondary raw materials into the circular economy, rather than discarding them by incineration.

The development of new material flows is part of the MGG 2020 strategy which we have been trying to implement for several years. Further material flows will certainly follow; after all, we still have a number of plans for the future and want to push a lot forward in our recycling sector.

Christian Müller-Guttenbrunn, Mag.
CEO

Into the recycling future with the Bobby-Car

How do you dispose of a broken Bobby-Car correctly? An elderly gentleman is looking for a suitable container in a municipal waste collection center. However, the toy, basically consisting of a lot of plastic with a little metal, does not "fit" into any of the containers set up for various types of waste. In the end, due to its composition, it ends up in bulky residual waste container and will thus end up in an incineration plant. MGG employee Günther Höggerl observes this scene and is taken aback: "Isn't a lot of valuable recycling material being lost here? A lot of plastic and metal could be recovered from children's toys, old garden furniture, shower walls, sports and leisure articles!"

This scene in late autumn 2015 prompted the Müller-Guttenbrunn Group (MGG) to think about ways of recycling these valuable materials in order to prevent the incineration of such valuables together with the residual bulky solid wastes. The collection of solid plastics in the trial regions of Lower Austria – the "Bobby-Car Project" – was born.

The challenges: Collection and transport

One of the first major hurdles in realising the project was the separate collection of large quantities of solid plastics and efficient transport to the MGG recycling plants. The Müller-Guttenbrunn Group has established this separate collection in three trial regions in Lower Austria (Amstetten, Scheibbs, Melk) in close cooperation with the municipal waste collection partners in these regions. In addition to the large waste container for the large bulky residual waste, some selected waste collection centres have set up their own containers for the collection of this solid plastic waste fraction. "The real strength of the project lies in the fact that the plastic-rich waste collected may also be 'contaminated' with metals. While metal components can cause machine damage in highly specialized plastic recycling companies, the opposite is the case at Müller-Guttenbrunn! The comminution and separation of metals is virtually in our DNA," explains Günther Höggerl, who is in charge of the project.

A transport solution in special containers also had to be developed for this purpose. The solid plastic waste objects usually have a low relative weight and an even greater volume, so that they need to be compressed. This is a necessity to avoid excessively high transport costs. In this way, a truck can deliver five times as much material at once. "To collect and compress these goods, we therefore need the regional waste management associations as key partners in this project. This of course saves them spending a lot of money to incinerate large amounts of bulky waste," Höggerl underlines the importance of this cooperation.

New ways to reach the goal

The Müller-Guttenbrunn Group also had to break new ground. Even the shredding of the quantities of solid plastic wastes posed a challenge, because the shredders used by MGG are designed principally for metal-rich waste. For this reason, MGG decided to invest in a specialized shredder unit of latest design that is optimized for plastic-rich and low-metal waste. After shredding, the metals are separated at the MGG Metran plant. The total metal content is between 1% and 5% and consists mainly of iron or aluminium.

"While metal components can cause machine damage in highly specialized plastic recycling companies, the opposite is the case at Müller-Guttenbrunn! The comminution and separation of metals is virtually in our DNA."

In the subsequent recovery of the plastics by type, the company also ventured into previously unfamiliar terrain. While MGG Polymers draws on years of experience in the sorting of PP, PS and ABS, a process for the recovery of previously unsorted plastics such as polyethylene (PE) or plexiglass (PMMA) was successfully set up at MGG Metran's neighbouring plant. This is important because a high proportion of the hard plastic supplied consists of polyethylene (PE).

A plus for the environment

Last but not least, the extrusion lines at MGG Polymers produce high-quality plastic granules with very good properties from the sorted, separated plastic granulates. These can now be processed again in new plastic products.

Overall, the Müller-Guttenbrunn Group can recover approximately 80% of the entire material by combining a few process steps. Plastic recycling is an enormous plus for the environment, as it is many times more eco-efficient than the incineration or production of plastics from primary raw materials.

Things are moving at a rapid pace

The Bobby-Car project has already gained considerable momentum in the last two years. Starting in 2016 with the processing of 200 tonnes of a quantity of collected solid plastics, the quantity rose to 500 tonnes in 2017 and to 900 tonnes last year. For this year, Günther Höggerl names a figure of well over 1,500 tons as the next target. In addition to the pilot project in Lower Austria, the Province of Upper Austria was also enthusiastic about this Bobby-Car project. "It must be our goal to be able to collect and recycle the solid plastics in the bulky waste in our entire environment efficiently and area-wide. After all, the recycling of one tonne of technical plastics can save the emission of around 4.5 tonnes of CO_2," says MGG Managing Director Christian Müller-Guttenbrunn, who is convinced of this project's future success.

Exciting insights
into the world of recycling

"The very good cooperation with the Müller-Guttenbrunn Group to promote scientific and technical interests is a successful example of good networking of schools and businesses."

The children of the primary school at Hausmening got to know the Müller-Guttenbrunn company and its tasks better within the framework of the initiative "T4T | tools for talents".

At a workshop, the children of the 4th grade disassembled everyday electronics – such as broken DVD recorders, keyboards or playground equipment – into their individual parts. "Working with a screwdriver, pliers and hammer is fascinating for the kids. It is nice to see how interested the children are in electrical engineering and the correct separation of the individual components," says class teacher Claudia Tatzberger.

On the premises of the MGG Metrec plant in Amstetten, the recyclability of materials in the so-called recycling cycle was demonstrated up close. In addition to the knowledge of the structure and composition of equipment, the explanation of the recyclability of materials

was an essential aspect of the project. “I am fascinated by what the children remembered about the workshop at school and by their enthusiasm for recycling,” said DI Günther Höggerl, Head of Research and Development at Müller-Guttenbrunn.

Afterwards they went on to the Kematen Business Park, where the pupils visited the MGG Metran plant. There they got an insight into how different industrial materials (e.g. aluminium, copper or zinc) are separated in practice.

“The very good cooperation with the Müller-Guttenbrunn Group, which has already lasted several years, to promote scientific and technical interests within the framework of our ‘T4T | tools for talents’ project is a successful example of good networking of schools and businesses,” says Simone Trost of the Zukunfts-akademie Mostviertel.

Tools for Talents

“T4T | tools for talents” is an initiative launched in 2010 to foster scientific and technical interests among children and young people. Together with kindergartens, schools and companies as well as supporting external partners such as Müller-Guttenbrunn, the initiative wishes to arouse young people’s curiosity and desire for technology in a playful and lighthearted manner.

More information: www.toolsfortalents.or.at

The one-man **disarmament squad**

Michael Jungwirth ensures at MGG Metrec that many old cars get rid of all hazardous pollutants before their last trip to the car shredder. For an interview, the 58-year-old from Amstetten puts his tools aside for a few minutes and gives an insight into his working world.

Mr. Jungwirth, how many cars have you already removed all the pollutants from?
MICHAEL JUNGWIRTH: I find that hard to quantify. There must have been several tens of thousands. After all, I've been doing this job since 1995.

How did you end up at this workplace anyway?
JUNGWIRTH: After my apprenticeship as a locksmith I was looking for a job. When I passed by Müller-Guttenbrunn one day, I asked if someone was needed by chance. That's how I started as a material handling crane driver. I was sitting at the material handling crane for 13 years before I was asked if I didn't want to do car de-pollution work. I was immediately thrilled by that, because I simply like to work around vehicles. So I don't know if I got the job or the job got me – anyway it is definitely a great job that I like doing.

It is important to work this field of car de-pollution – in other words, to liberate end-of-life vehicles from all possible dangerous components and fluids – in order to comply with legal requirements. But it is also decisive for the further process flow here at the Metrec site, isn't it?
JUNGWIRTH: That's right. My work is really important to protect the shredder. And that is why, for example, I have to drain the tank from its contents and to suck off all other liquids from the car such as the engine oil, air-conditioning cooling liquids, brake fluids and so forth to prevent possible explosion in the shredder.

That sounds like a dangerous job…
JUNGWIRTH: Of course I am handling hazardous substances – the job is about de-pollution. And it goes without saying that it is important to ensure that nothing ignites. After all these years, however, handling all these work steps on the vehicles has become part of my flesh and blood. It just works - and with these end-of-life vehicles I don't have to take care whether something breaks or not.

How exactly does such a de-pollution work?
JUNGWIRTH: The car is delivered and the handling crane driver makes sure that the vehicle is delivered to me. First I remove the battery, unscrew the tyres and then lift the car up with the hydraulic lift. Once it's lifted up, I remove one liquid after the other until the car is "dry".

How long do you need for this "car drying" process?
JUNGWIRTH: That largely depends on the pollutants present. But on average it takes about 15 to 20 minutes. There is a total of about 30 cars a day – some of which are already delivered dry.

Have there been any vehicles among of which you thought "what a pity about this wonderful piece"?
JUNGWIRTH: I'm not a big car fanatic, so it's rare. However, I do remember one Jaguar XJ8, where I had this feeling of pity. But most of the cars get to me in such a state of demolishment that it doesn't hurt anymore.

Of course we also want to get to know the private person Michael Jungwirth a little bit better. So here's a final question: How do you spend your free time?
JUNGWIRTH: I try to wipe out everything when bowling and I love to hit the central black mark shooting with a large calibre. And I also love to be in nature and finally there must be no lack of fun.

We wish you a lot of fun – whether at work or in your free time. Thanks a lot for taking the time for this interview, Mr. Jungwirth.

"Today, the quality of recycled plastics is comparable to virgin material."

IARC Key Theme: Plastic Recycling

At the IARC 2018 conference in Vienna, the Müller-Guttenbrunn Group spoke about the recycling of plastics from end-of-life vehicles and wastes from electrical and electronic equipment. The talk focused on current debates about problematic substances in plastics and how these discussions have the potential to put an end to the recycling of these technical plastics.

The Circular Economy Package

After years of stagnation, the European recycling industry is finally experiencing a revival. The main triggers are the EU Circular Economy Package and the planned EU plastics strategy. While the EU Council, the EU Parliament and the EU Commission have already agreed on the Circular Economy Package, the plastics strategy of the EU is still at an early stage: This plastics strategy was only presented by the EU Commission in January 2018. The latest talks between the EU environment ministers show that a broad consensus can also be expected here. "" "This is good news for the recycling industry," said Olivier François, Market Development Officer at Galloo Recycling, at the International Automobile Recycling Congress IARC 2018 in Vienna. Nevertheless, the EUs plastics strategy is also a major challenge. So far, only 6% of the plastics placed on the market have been recycled. This corresponds to a recycling volume of 2.94 million tonnes. However, if the EU's plastics strategy becomes reality, a total of 10 million tonnes of plastics should be recycled by 2025 – an increase of around seven million tonnes. An objective to be achieved through voluntary commitments by industry.

Legal obstacles

Julien van Damme, Recycling Manager at Honda Motor Europe, noted that car manufacturers have long focused on the development of recyclable components. In the meantime, the technologies have been improved so that not only metals but also plastics can be recovered in their pure form. Today, the quality of recycled plastics is comparable to that of virgin material. The problem, however, is that the legislator also partly hinders the use of recycled material, said van Damme. Strict rules on the presence of certain chemicals would ensure that certain plastics, even from end-of-life vehicles, could no longer be

used. This is a waste of recyclable materials, which in the worst case would have to be replaced by fossil raw materials.

Much potential

Chris Slijkhuis of the MGG argued in a similar way. The total amount of plastics used in electronics and vehicles amounts to about 8 million tonnes, he said at the IARC. Of these, about 65% would come from recyclable components from which technical plastics can be produced again. The remainder of this solid plastic waste fraction consists of a large number of plastics that cannot be recycled. These plastics include plastics with brominated flame retardants (BFRs), which can be found both in end-of-life vehicles (ELVs) and in electronic scrap (WEEE). The affected components are often located near heat sources (e.g. motors and power supplies). These plastics with brominated flame retardants (BFRs) are separated and incinerated, as some of these BFRs consist of restricted Persistent Organic Pollutants (POPs).

New approach needed

The threshold value of a newly defined POP flame retardant is currently under discussion. If this limit is set at a very low level, recycling of these engineering plastics will become impossible. "A decision in this direction would be devastating for the recycling targets for ELVs and Waste Electrical and Electronic Equipment (WEEE) set by the EU," warned Slijkhuis and continued: "A balanced approach that takes the energy saving and CO_2 reduction aspects of recycling these plastics in combination with the need to eliminate these POP-BFRs into account, is absolutely necessary. We need realistic thresholds."

Plant visits at MGG

A delegation of almost 50 participants at the IARC conference took the time to visit the three MGG facilities.

At the **MGG Metrec** plant in Amstetten, ELVs and WEEE are treated with two specially designed shredders. The incoming ELVs are de-polluted and then shredded with a large car shredder. After this shredding process, the ferrous metals are recovered. The non-ferrous shredder residues are transported to MGG Metran.

MGG Metran specializes in the post-shredding of these non-ferrous shredder residues. A variety of innovative separation technologies are combined in order to process the delivered material into concentrates. The recovered materials are returned to the material cycle. These processes also produce a valuable plastic fraction, which is delivered to MGG Polymers for further processing.

MGG Polymers extracts high-quality ABS, HIPS, PP and even PC-ABS plastics from the plastic fraction of electronic scrap. These materials are reused in demanding applications for new automobiles and electronic equipment. These post-consumer recycled (PCR) plastics reduce energy consumption by over 80%. They are also environmently friendly, as they reduce CO_2 emissions by up to 4.8 tonnes per tonne of plastic produced – compared with producing one tonne of "virgin" plastics from the fossil sources.

Investments for the future

Many small and big improvements can be found in the new delivery and processing hall for E-Waste shredder residues at MGG Metran. As always in the Müller-Guttenbrunn Group, great importance is attached to environmental protection in the construction of the new building.

What works well can be improved, again and again. The largest processor of materials from wastes of electronic and electrical appliances (WEEE) in Austria, the Müller-Guttenbrunn Group proves this time and time again. The latest step forward was taken at the MGG Metran plant in Kematen.

MGG Metran had already reached the limits of their capacity. For this reason, a new 2,500 m² storage and processing hall for shredder residues from WEEE was built last year. Within six months, the construction of the company's new building, internally referred to as "Bunker 5", and the installation of all associated facilities as well as technical equipment were completed.

As a result, MGG Metran now has a modern delivery centre for E-Waste shredder residues. Around 2,500 tonnes of material are currently processed in the new hall each and every month. The high flying roof construction makes it much easier for tipping trucks to dump their cargo.

An in-house development increases efficiency

There are numerous other improvements in "Bunker 5". For example, a new "EVA 2" E-Waste shredder residues pre-treatment plant was installed to process this complex material more efficiently. It separates "bulky" recyclables that would otherwise impair the subsequent recycling process. The increase in efficiency is enormous, as up to 10% of coarse E-Waste can be recovered in this ingenious way. Taking a closer look, further clever optimizations were identified at all corners and ends. One example: the sensor-controlled conveyor belt ejector autonomously searches for free storage capacities for pre-sorted material.

Environmental protection continues to be a top priority

In addition to many small details, Metran Managing Director Gunther Panowitz and his team also kept an eye on the big picture. For this reason, great importance was attached to environmental protection when the new plant was built. The integrated air filter system catches about 99.999% of all particles in the air. The new plant thus over-complies with all legal requirements by far.

The treatment concept for surface and roof water was also adapted for the construction of "Bunker 5". The rainwater from the area around the new hall is cleaned, stored and reused as process water in the recycling processes at MGG Metran. Circulation is also the order of the day here. Best of all, everything happens naturally. Before excess quantities are released back into the environment, e.g. after a downpour or plant shutdown, a specially selected layer structure of the soil ensures a bio-filter effect on the corresponding infiltration surfaces. And in addition, 500 m³ of purified water can be stored. Managing Director Gunther Panowitz explains: "With the infiltration areas, we are acquiring nature's abilities in order to guarantee optimum water quality. For us as a recycling company, it goes without saying that we are at the cutting edge of technology in order to protect the environ-

"As a result, MGG Metran now has a modern delivery centre for E-Waste shredder residues. Around 2,500 tonnes of material are currently processed in the new hall each and every month."

ment. Furthermore, we do not use valuable drinking water for our processes, but first use these surface waters instead."

A detail on the side

Something can always break once and this is what happened with the "EVA 1" Metran prototype plant. The prototype broke down and refused service in October 2017 with a serious technical defect. The timing could not have been better, as this coincided with completion of "Bunker 5" with the new electronic scrap pre-treatment plant. Thanks to this new infrastructure, MGG Metran was able to continue production seamlessly.

Modern reycling costs a lot

In 2017/2018, MGG Metran invested well over 4 million euros in innovations in infrastructure, air and water technology as well as in new recycling technology. These investments are important for the development of a genuine Circular Economy, for the environment, for us as humans, and above all for future generations.

“It never gets boring!”

As an employee in the laboratory of MGG Polymers, Monika Sommer keeps a constant eye on all materials and their properties. In an interview, the Aschbach native tells us which tests are taken every day – and why they are important.

Ms. Sommer, you're sorting a colourful bunch of different parts. What exactly do you do there?
MONIKA SOMMER: Here samples of delivered material are examined for their composition. I analyse how large the proportion of target plastic that we can recycle at MGG Polymers is. Therefore, I sort all plastic parts, copper, cables, rubber, wood etc. into a small heap. This is tedious, but important, because these samples ultimately determine the purchase price and provide the purchasing department with the necessary information about our suppliers.

During the reprocessing process itself, you also carry out many tests to ensure good quality of the material. Which analyses do you do exactly?
SOMMER: There are for example the process controls. The material is dried and checked to see how much wood and rubber is still present. Here we try to find out for our production staff whether the machines run optimally or whether they have to be adjusted differently. This also applies to the wet process test. In this process, a sample is taken every four hours from our wet process to check how much plastic is lost in this sorting process. Just to mention two process tests - and there are a few more.

How often are these checks carried out?
SOMMER: These are carried out several times in a 10-hour shift so that the quality is really permanently guaranteed. For example, we also test samples from our silos where the material is stored before it enters the extruder and is processed into granulate. This happens exactly every four hours.

Is the finished granulate also subjected to tests?
SOMMER: Of course! For every tonne produced, our colleagues take a sample to the laboratory. For example, we use a melt flow computer to measure the melting properties. This is important for our customers who produce new products from these plastics. We also take retention samples of these materials, which I and my colleagues have to bring to our warehouse two floors above us in order to have access to them again at any time.

Before you started working for MGG Polymers three years ago, you worked in retail and gastronomy for many years. What prompted you to switch to the lab?
SOMMER: My daughter also works at MGG Polymers and at that time she thought I should have a look at the work here. I enjoyed it right away. Before, I always used to say that I'd never go to a production company, that is too monotonous for me, but here you always have something different to do all the time. In addition, it is important to learn new things all the time. In short: it never gets boring here in the lab!

"In fact, we have a lot of equipment – from a small circular saw to the numerous computers."

There's always something new with the equipment. There are lots of devices all around…
SOMMER: In fact, we have a lot of equipment – from a small circular saw to the numerous computers. We recently received another new injection moulding machine. The handling of every new device is another challenge, but I always like to face it. I'm not a computer professional, but I still like working with PCs.

Now we haven't even talked about the working environment here – what do you like best?
SOMMER: Working hours in any case. Shift work is not everyone's cup of tea, but I am totally happy that I can work four days and then have four days off. There is also time for the family – such working hours and such a varied work cannot be found so quickly elsewhere!

How is shift work divided up?
SOMMER: There is a day shift and a night shift. The day shift starts at 5 am, the night shift at 5 pm. There are always two of us in the laboratory, who then tackle one task after the other. Some analyses are scheduled - for example, checking the silo contents – other tests must be carried out when they are needed, e.g. when if a finished product delivery has to be checked. But what is always important is accuracy. That's the order of the day – no matter what test or analysis.

Accuracy always means effort. How do you balance this strenuous shift work?
SOMMER: I have been a grandmother with heart and soul for a year. Since my daughter lives with her family in my house, I can really enjoy it. I like to go for a walk with our dog and my granddaughter. My husband and I travel many kilometres by motorcycle. We often make spontaneous trips or plan routes for the vacation.

We wish you pleasant tours this year and lots of fun in the laboratory at MGG Polymers!

Fully on track on the raw materials highway

The Müller-Guttenbrunn Group is carrying out more and more transports by rail. This protects the environment and the company budget. New freight waggons are currently being tested with the Rail Cargo Group.

The MGG Metrec plant in Amstetten could not have a better location, just along the Westbahn. No wonder that Müller-Guttenbrunn has been using rail as a means of transport since moving here in 1976. In recent years, however, rail freight volumes have increased significantly, as Christian Buchheit of the Rail Cargo Group (RCG) confirms: "The previous year was an absolute record year. In the two plants MGG Metrec and MGG Metran alone, 240,000 tonnes of material were handled." That means many fewer trucks on the road; some 12,000 truck trips (and enormous CO_2 emissions) were thus saved last year.

Close cooperation

RCG customer advisor Buchheit has been looking after the wishes and concerns of the Müller-Guttenbrunn Group for almost 20 years. He is working particularly closely together with Michael Grimm, Managing Director of MGG Metrec. Together they not only work on new ideas, but also clarify the daily routine questions: How many waggons are needed the following day? Where does the transport take place? What has to be considered?

The new waggons arrive every day between 6 am and 7 am on the three tracks and are then filled throughout the day before they are picked up after 5 pm to be transported to their destination. An important detail is that each individual waggon must be checked for radioactivity in accordance with the regulations. The cooperative partnership between Müller-Guttenbrunn and ÖBB makes this possible.

Own waggon fleet

In addition to the RCG waggons that are used, the Müller-Guttenbrunn Group itself has its own railway waggons. Two of these waggons allow daily transport to and from the MGG plants in Amstetten and Kematen. The driving force behind the siding of the railroad track at the Kematen Business Park around seven years ago was the Müller-Guttenbrunn Group. A lot of convincing had to be done to pave the way for the environmentally friendly transport option. As many business partners of MGG Metran have a rail connection, Metran's own freight station is a decisive advantage.

Across borders

The Müller-Guttenbrunn Group also handles many transports from and to foreign countries by rail. Important destinations are Italy, Germany or Hungary. "We have also carried out transports of recycled material to and from France or the Benelux countries. And we also

"Some 12,000 truck trips (and enormous CO_2 emissions) were thus saved last year."

delivered scrap from Poland or Romania to Amstetten by rail," says RCG customer advisor Christian Buchheit.

Competion with sugar beet

However much one likes to use the railways as a means of transport, once a year the waggons become scarce in any case, reports MGG Metrec Managing Director Michael Grimm: "When the sugar beets are harvested from mid-September, it is not at all easy to get the necessary waggons". Perishable beets are transported with the same type of waggon and have right of way during this time. The Müller-Guttenbrunn Group therefore sometimes draws the short straw.

Ongoing development

In order to eliminate such bottlenecks, MGG is happy to work on the further development of freight waggons. The constant optimization is not only lived in the own recycling plants, but also in cooperation with the Rail Cargo Group. For some time now, the company has been testing converted, lighter transport waggons that can carry two additional tons of cargo. Any experience can be helpful here for the future in which rail transport might play an even more important role for the Müller-Guttenbrunn Group. In any case, there are more than enough ideas to make even more intensive use of the raw materials highway.

Facts about transport by rail

- In 2017, the Müller-Guttenbrunn Group transported around 240,000 tonnes of material by rail to and from the two plants MGG Metrec in Amstetten and MGG Metran in Kematen alone. This corresponds to 12,000 truckloads.
- A comparison of CO_2 emissions from rail to truck shows just how environmentally friendly rail transport is. The Müller-Guttenbrunn Group was able to save 4,084 tons of CO_2 emissions with its rail transports last year.
- Rail transport is also sustainable: over 90% of the electricity used for rail transport in Austria is generated from renewable hydropower.

Stimulate recycling, don't stop it!

A new legislative proposal at EU level could make recycling plastics from Electronic Waste (WEEE) impossible. The Müller-Guttenbrunn Group therefore entered into a dialogue with EU leaders together with the international trade associations EERA and EuRIC.

Plastics recycling is good for people and the environment – and indispensable for the future. The World Economic Forum in Davos recognised this more than a decade ago: in 2006 the Müller-Guttenbrunn Group and MBA Polymers founded the recycling plant in Kematen/Ybbs. This innovation was recognised as a Technology Pioneer in the same year.

The work of the employees at MGG Polymers is therefore an important contribution to environmental protection. The plant in Kematen/Ybbs recycles around 50,000 tonnes of plastics from E-Waste each year. MGG Polymers uses these materials to produce high-quality engineering plastics that are used in new electrical and electronic equipment.

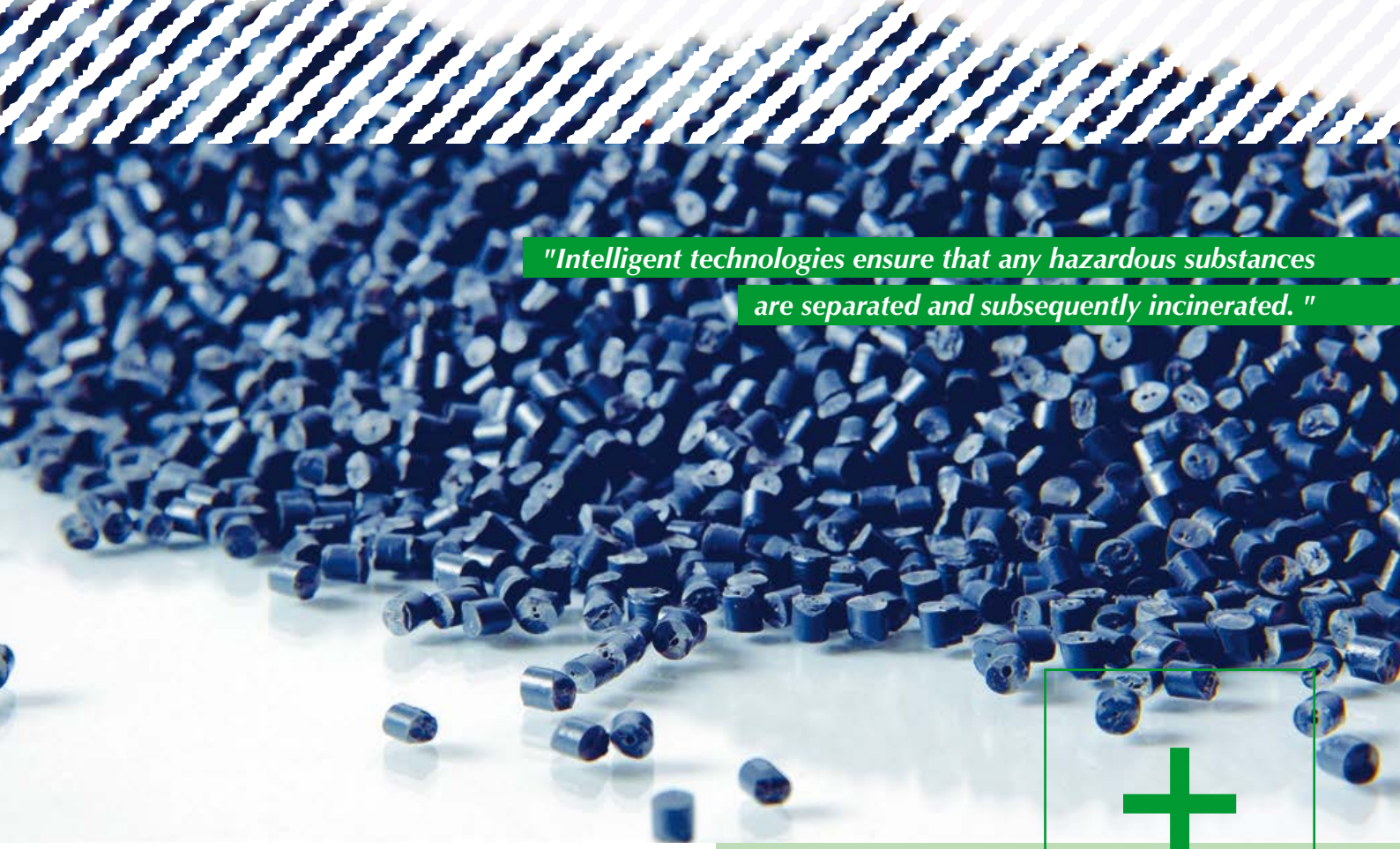
Safe handling of hazardous materials

However, end-of-life electrical appliances can contain substances of concern – such as cadmium in old colouring compounds or certain brominated flame retardants. More and more of these substances are (rightly) included in the list of banned substances. Previously, legislators had set realistic limit values for such substances if they were placed on the list of restricted substances. In this way, plastics could be recycled in line with the concept of Circular Economy, thus saving energy and raw materials. In 2017, the Cenelec recycling standard set a limit value of 2,000 ppm (parts per million) for bromine. At the MGG Polymers plant, intelligent technologies ensure that any hazardous substances are separated and subsequently incinerated. This enables MGG Polymers employees to recycle materials in such a way that the quantities of flame retardants contained in the recycled plastics are far below the required threshold limits.

A legal change as a threat

MGG is therefore all the more dismayed to note that a new draft law was tabled at EU level in 2018 setting a threshold value for a particular brominated flame retardant, that was frequently used in the past. This proposed threshold value was set at only 10 ppm. The proposal is neither substantiated nor based upon scientific impact assessments. This value would mean the end for plastics recycling from waste electrical and electronic equipment! This stands in stark contrast to the targets defined for a Circular Economy or with the ambitious targets for the recycling of E-Waste and end-of-life vehicles.

The housing of old CRT TVs and monitors, for example, can contain as much as 150,000 ppm brominated flame retardants (ppm = parts per million). With our modern separation technologies, MGG Polymers is able to recycle these E-Waste materials so that the recycled plastics do not contain more than 1,000 ppm of these flame retardants.



"Intelligent technologies ensure that any hazardous substances are separated and subsequently incinerated. "

Nevertheless, the European Parliament voted in favour of these unrealistic limit values. If threshold values cannot be measured in any practical way, they cannot be achieved even by the most innovative companies such as MGG Polymers. This change, if implemented, would endanger both the recycling industry and many jobs: Müller-Guttenbrunn employs 125 people at MGG Polymers who are convinced that they make an important contribution to environmental protection. For this reason, the Müller-Guttenbrunn Group was convinced from the outset that this could only be an error. The design endangers both the recycling industry and many jobs.

Trade associations advocate changes

Together with the important European recycling associations EERA and EuRIC, the Müller-Guttenbrunn Group discussed for months with European politicians at all levels. The challenge was either to withdraw the proposal or to review it for values that are measurable and consistent with other European legislation on the issue.

During the Austrian Presidency of the Council in the second half of 2018, the issue was discussed intensively in a trilogue negotiation between the EU Parliament, the EU Council and the EU Commission. A compromise was reached, but could not be concluded. Together with the entire recycling industry, MGG hopes that the debate will be brought to a reasonable conclusion in 2019 so that it can concentrate again on the important recycling of waste electrical and electronic equipment.

Müller-Guttenbrunn thanks both associations for their support and appeals to European politicians not only to continue to enable, but also to support the environmentally friendly recycling of plastics from waste electrical and electronic equipment.

Only 25% recycled in Europe

Around 1.2 million tonnes of mixed WEEE plastics are resulting from the dedicated collection of E-Waste in Europe. Only about 300,000 tonnes of these WEEE plastics are delivered to specialized recycling facilities such as MGG Polymers to be processed into Post-Consumer Recycled plastics (PCR plastics). This means that about 75% of WEEE plastics are disappearing from Europe. Of this 75% it is not known what proportion of plastics is recovered or what happens to bromine flame retardants.

Brominated flame retardants

The vast majority of WEEE plastics do not contain brominated flame retardants. Plastics with flame retardants are typically used in equipment that generates heat, such as CRT televisions, monitors and IT equipment such as printers or photocopiers or in cables or printed circuit boards.

Recycling clearly the best option

Compared to newly manufactured plastics, one tonne of recycled plastic saves up to four Metric Tons of CO_2. In addition, only 10% of the energy is needed to produce recycled plastics compared to virgin material. A formal life cycle analysis by the Swiss research institute EMPA shows that plastic recycling is by far the best option compared to both the incineration of old plastics and the production of new plastics.

Perfectly recycled and delivered

In order to establish a sustainable circular economy, it is necessary to develop perfect recycling solutions. However, this involves more than developing a technical solution for the recycling of waste – even if this is the heart of the system. It is just as important to be able to deliver the recycled material optimally to the customer: the right quantity must be available at the right time and in the right quality. The production and supply chain also plays a decisive role in the environmental service industry.

The range of materials available for plastics recycling from waste electrical and electronic equipment (WEEE) is increasing. In the Müller-Guttenbrunn Group, for example, a sustainable supply in this area is ensured as the supply is constantly replenished. At the MGG Metran and MGG Polymers plants, employees use innovative processes to carry out "urban mining" – and that protects the environment and nature. For example, the production of PCR plastics (PCR = Post Consumer Recycled) can save up to 90% of energy and water compared with virgin materials. CO_2 emissions are also reduced in this comparison, namely by three to four tonnes of CO_2 per tonne of PCR plastic produced.

PCR plastics for world market leader

For MGG Polymers customers, i.e. manufacturers of durable products, this means that they receive sustainable plastics from the MGG Polymers plant. This can be used to manufacture "green" products that promise good prospects of success on the market from the ever-increasing number of environmentally conscious consumers. In addition, PCR plastics are already reaching the quality of virgin plastics. The high-quality plastics from MGG Polymers are therefore in high demand in industry.

One example of this is the world's leading stamp manufacturer Trodat: the Austrian company relies on recycled plastics from the Müller-Guttenbrunn Group for its climate-neutral stamps. For Andreas Poimer, International Marketing Manager at Trodat, the calculation works: "We use up to 65% post-consumer recycled plastics for some of our models. This material has much smaller CO_2 equivalents than the new virgin plastic material. Our stamp Printy 4.0 causes up to 49% less CO_2 than its predecessor and has a smaller design."

"To ensure that manufacturers receive the ideal quantity of recycled plastics, they are available in various packaging sizes for delivery: from 25 kilo sacks and big bags to silo or sea container deliveries."

All possibilities in the delivery process

To ensure that manufacturers like Trodat receive the ideal quantity of recycled plastics, they are available in various packaging sizes for delivery: from 25 kilo sacks and big bags to silo or sea container deliveries. The Müller-Guttenbrunn Group even organizes optimized logistics concepts so that customers no longer have to worry about having the right quantity of plastics in stock. Since perfect plastic quality is also crucial for product manufacturers, MGG Polymers ensures the best quality assurance for durable products. Each batch is rheologically, physically and chemically analyzed to ensure REACH/RoHS compliance. All information for each PCR plastic produced can be found in separate product sheets. For this purpose, reserve samples and data are stored for at least seven years so that they can be accessed at any time. With this comprehensive delivery and extra service, MGG Polymers is definitely taking another important step towards recycling management.

With **new recycling ideas** to the next successes

Gunther Panowitz has been Managing Director of MGG Metran for quite some years. Recycling has always been his favourite topic ever since 1990. At that time he preferred to help with the grubby construction work of the separation plants in the Müller-Guttenbrunn Group rather than take on a better-paid office job elsewhere. By now, the 51-year-old is dealing with a wide variety of tasks to ensure the smooth operation of the plant in Kematen. Nevertheless, the love of tinkering on how systems can be optimized and improved has remained, as he reveals in this General Manager interview.

Do you remember your early days here at MGG Metran?
GUNTHER PANOWITZ: Yes – I still have that clearly in my mind. In the early 1990s there was neither electricity nor telephone here. We took the water for the coffee machine from home – and not many people knew the word recycling. In the first year I was still employed in Amstetten before I joined Metran in 1991. Fortunately, things went steeply uphill afterwards and the infrastructure has been modernized every year since.

How does the work present itself today?
PANOWITZ: In addition to a modern office building, we now have nine halls, five material bunkers, 15 separation and sorting plants and our own rail connection – this gives a rough overview. And the special thing here is that all these systems are extremely versatile. We can demetallize wood shredder fractions on one day, sort beverage cans the next day and separate aluminium sheets from stones 24 hours later. This allows us to tap into different sources of recyclable material, making us less dependent. The proportion of E-Waste has grown particularly in recent years. In this area of WEEE shredder residue materials we will probably separate some 25,000 – 30,000 tonnes of plastic-metal mixtures this year.

"We will continue to remain flexible and will always keep an eye on what waste we can expect in the future."

How large do the parts have to be in order to be separated?
PANOWITZ: We are now able to separate metals and metal concentrates smaller than one millimeter. This is particularly important for expensive rare metals such as gold, silver or palladium. Due to their price, these are often applied very thinly or in extremely small parts. The recycling is all the more important when you know how energy-intensive and environmentally harmful the extraction of these metals can be. These precious metals carry around a large CO_2 backpack because they are extracted from the earth in very low concentrations. This applies to the rare precious metals as well as to aluminium. For example, a single tonne of aluminium made from recycled material can save 10 tonnes of CO_2 compared to one tonne of "virgin" aluminium! For this reason, we are constantly working on the further development of our separation systems.

Is it this constant tinkering that distinguishes MGG Metran and its employees?
PANOWITZ: Yes, indeed our team is making us very special. Our 45 employees take up ideas from many areas and implement them. With us there is no "If only I had … then …", but a lot of "trial and error." We are all very curious and we try a lot and see if we can do it differently. This is a lot of fun – and we definitely have a great working atmosphere. We laugh a lot because we can combine work with fun.

The many ideas are probably also necessary, as MGG Metran sorts very different materials...
PANOWITZ: Our most important material is aluminium, followed by stainless steel, copper, zinc, lead and other metals. We now also have a plastics separation plant. As a result, we handle 90,000 tonnes of material per year – many even several times – in order to separate them, depending of the type of materials. We can sort a wide range of waste types. In order to do this, we need different approaches. We separate materials according to their density, their colour or their friction properties. Basically it is often simple physics combined with the right idea. What is possible today with 3D cameras and sensors was unthinkable ten years ago. Computer performance has increased so much – and there will continue to be technological leaps. That is why we invest in the latest technology every two to three years.

The most recent investment concerned the so-called "Bobby-Car project", in which plastic composites with some metals are recycled. How large was the investment volume?
PANOWITZ: Yes, we saw years ago that we had to do something to prevent the expensive and valuable solid plastics from simply ending up in the incinerator and being burned. In total, we have invested almost two million euros in MGG Metran. Preliminary shredding with a mobile shredder alone meant an investment of almost 500,000 euros. These investments imply a certain risk. It cannot always be foreseen whether everything can be implemented as planned. But we are not afraid to tackle such important projects.

How will MGG Metran develop its future?
PANOWITZ: We will continue to remain flexible and will always keep an eye on what waste we can expect in the future. Here you have to think ahead. For example, we used to separate the components of computers weighing 25 kilograms; today the materials come from light-weight smartphones and laptops. We have to be pro-active; we must look at least five years into the future. We will certainly also tackle new material flows and go even deeper than we can today to safeguard our future success.

We wish you and your innovative team continued success.

A successful appearance at **Fakuma 2018**

Over 47,000 visitors visited the trade fair Fakuma 2018 in Friedrichshafen. MGG Polymers was one of the 1,930 exhibitors coming to Friedrichshafen from 40 countries. This was a premiere: MGG Polymers, market leader in WEEE plastics recycling, was present with its own stand here for the very first time.

MGG Polymers presented its extensive product portfolio as well as the revolutionary treatment process with which a wide variety of plastics and processing qualities can be economically recycled and recovered.

"We all enjoyed having many excellent conversations with people from all over the world. The premiere far exceeded our expectations."

General Manager Wolfgang Ganser drew an extremely positive balance: “Our trade fair appearance was a complete success. The enormous influx of customers, suppliers and interested parties confirmed that it was the right decision to present ourselves at the Fakuma Fair in the way we did. Many visitors came to us with very specific questions. We all enjoyed having many excellent conversations with people from all over the world. The premiere far exceeded our expectations.”

In 2019, MGG Polymers will again be presenting itself to the public at a major trade fair: K 2019, the world’s most important trade fair for the plastics and rubber industry, taking place in Düsseldorf on 16–23 October 2019.

“It was **just fine for me** right away!”

Thomas Steindl and his colleagues at the MGG Metrec sorting plant use their nimble fingers to fish all impurities from the shredded iron material. For this interview format, in which an employee of the Müller-Guttenbrunn Group is asked to appear before the curtain, the 39-year-old from Ardagger takes a short break.

Mr. Steindl, your work looks very strenuous. You stand fully concentrated at the sorting conveyor to pick out everything that doesn’t belong in the ferrous scrap. Which parts do you sort out here?
THOMAS STEINDL: I work with my colleagues on the sorting belt of the electronics shredder plant, which we call our “EVA line” for short. This means that the ferrous scrap on our sorting belt is from E-Waste material. Here we pick out copper wires or printed circuit boards that belong in other recycling streams. And of course we also pick other plastic parts or waste that has no place in pure ferrous scrap. So all of this has to be sorted out by us.

But you don’t have time on the sorting line to search through everything forever; it has to go quickly. Do you feel pressure there?
STEINDL: Of course, the material runs through on the conveyor belt steadily and we as the sorting team have to look at how to bring out a clean ferrous scrap. But I don’t feel any stress – after all, I already have enough routine.

How long have you been doing this work?
STEINDL: I’ve been working here at Müller-Guttenbrunn in Amstetten for 18 years now.

Why did you decide on such a job?
STEINDL: Before I started here, I completed an apprenticeship as an plumber. But somehow I was more fascinated by the work at the scrap yard. By chance I found out shortly afterwards that the Müller-Guttenbrunn Group was looking for someone to work at the scrap yard. I came here and it was just fine for me right away. This is my world, I feel at home here. In general, the working atmosphere at Müller-Guttenbrunn is very good – and I think it’s great that I can do my work independently.

You are not the only one in the family who feels at home in the Müller-Guttenbrunn Group…
STEINDL: Yes, indeed. After I found my job here, my brothers Martin and Robert also decided to work at the scrap yard in Amstetten. It's also nice for me to be able to work with my own brothers.

Back to the sorting belt: Are there any special findings?
STEINDL: It happens again and again that small coins are mixed with the scrap.

Have there ever been any dangerous substances?
STEINDL: No, fortunately it never happened to me that I discovered something dangerous. But there are enough harmless parts to pick out.

This requires a lot of concentration. How do you balance out your work?
STEINDL: My car is my biggest hobby. I spend a lot of time on it – even cleaning my car is fun. But of course the trips are even more exciting.

We hope you continue to enjoy your work and your car…

"The material runs through on the conveyor belt steadily and we as the sorting team have to look at how to bring out a clean ferrous scrap."

An integrated **management system**

With the integration of MGG Polymers as a wholly owned subsidiary of the Müller-Guttenbrunn Group, the MGG Management Team decided to integrate the quality and environmental management systems of the Austrian companies.

MGG Quality and Environmental Manager Philipp Felber, formerly Head of QM at MGG Polymers, was given the task of integrating both management systems into the Müller-Guttenbrunn Group. The first IMS audit successfully took place at the end of 2017 and this was confirmed at the end of 2018.

The word audit comes from the Latin "audire" and means to hear or to listen. An audit examines whether processes, activities or management systems meet defined or required standards, guidelines, standard requirements or legal requirements.

MGG's processes include regular checks to ensure that a documented quality and environmental management system and standard-compliant recycling processes have been implemented. The Müller-Guttenbrunn Group cooperates with the internationally recognized Bureau Veritas Group as auditors.

With representatives of the four MGG companies involved, an MGG audit team was formed and Bureau Veritas was mandated to fully re-certify these companies as an integrated group. This certification is important as it represents the confirmation of conformity with the specific requirements by an independent body.

Certification has been carried out in four areas:
- ISO 9001 - 2015
- ISO 14001 - 2015
- Cenelec EN 50625 for the treatment of EAG (large and small appliances)
- Cenelec EN 50625 for the treatment of flat screens

The final result was positive and the audit was completed with very good results. The dedicated team was congratulated by MGG Managing Director Christian Müller-Guttenbrunn: "Compliance is the key to success for our activities as an important player in the environmental service industry. This audit shows that we are a truly integrated recycling company with an unparalleled recycling depth – from the first treatment to the end of the waste status. I am proud that we were able to conduct this integrated audit only a few months after the acquisition of MGG Polymers."

Floriani Badge for Christian Müller-Guttenbrunn

The Amstetten Volunteer Fire Brigade celebrated its 150th anniversary in the Johann Pölz Hall in Amstetten on 27 September 2018. Guests of honour from politics, business and fire brigades from all over Austria as well as their own team filled the festival hall. In addition to a varied programme of speeches, fashion shows, culinary delights, music and dance, honours were also presented.

Mag. Christian Müller-Guttenbrunn was distinguished with the Floriani Badge of the Fire Brigade Federation of the Province of Lower Austria. This is the highest award of the federation which is awarded to private persons or companies. The plaque was presented by the director of the state fire brigade Dietmar Fahrafellner, the deputy head of the state Dr. Stefan Pernkopf, and mayor Ursula Puchebner. Mr. Ing. Alfred Umdasch, a second Amstetten based entrepreneur, also received a Floriani badge.

Armin Blutsch, commander of the volunteer fire brigade Amstetten and employee of the Müller-Guttenbrunn Group, emphasized in his laudation the great understanding at Müller-Guttenbrunn for the work of the fire brigade. He also pointed out that the company is aware of its social responsibility and therefore grants special leave for disaster relief operations, which is much appreciated.

"Christian Müller-Guttenbrunn was distinguished with the Floriani Badge of the Fire Brigade Federation of the Province of Lower Austria. This is the highest award of the federation which is awarded to private persons or companies."

A small anniversary for the Müller-Guttenbrunn Group

The 18th International Electronics Recycling Congress IERC 2019 took place in mid-January. Around 450 participants from the entire e-waste recycling industry came together in Salzburg: Representatives of international producers, recyclers, equipment manufacturers, recycling associations, standardisation bodies, NGOs and legislators took part and discussed important points.

Since the IERC conferences took place in Salzburg, the Müller-Guttenbrunn Group (MGG) has been a sponsor of the event. MGG was therefore also represented with a stand this time and thus celebrated a small anniversary: It was the tenth time that MGG was present as recycling pioneer. As every year, the participants had the possibility to visit the companies of the Müller-Guttenbrunn Group. The Technical Visit included guided tours in the three MGG companies MGG Metrec, MGG Metran and MGG Polymers (formerly MBA Polymers Austria). This offer was very well received by the participants. IERC conference visitors were thus given an insight into the innovative WEEE recycling processes that have been developed over the last 15 years during which MGG has been active in WEEE recycling.

Two MGG lectures in Salzburg

A good proportion of the industry representatives listened in at the lecture of Chris Slijkhuis. He spoke at IERC 2019 about the legal challenges currently faced by the WEEE plastics recycling industry. Of course, the threshold values for some brominated flame retardants discussed at EU level were a hot topic. The vast majority of those present recognized the proposals made last year as a danger to the recycling

industry of waste from electrical and electronic equipment (WEEE). A similar discussion at the level of the Basel Convention of the United Nations was also discussed. The Müller-Guttenbrunn Group calls for a balanced and intelligent approach between the goals of a Circular Economy – after all, recycling plastics saves enormous amounts of energy and CO_2 emissions – and the goals of a "non-toxic" world. Plastics, which have been used in households for decades, cannot suddenly become more dangerous at much lower concentrations.

Arthur Schwesig of MGG Polymers also gave a presentation on the integration of life cycle thinking into product design. He presented a case of the use of post-consumer WEEE plastics in new products. Both MGG presentations were in the conference block "E-Plastics - Challenges & Opportunities", where completely different perspectives on the topic of WEEE plastics recycling met.

Three keynote speakers and a cowbell

The three keynote speakers also offered exciting insights: Basel Convention expert Aaron Goldberg, Steven Clayton (Regulatory Affairs Manager at Samsung) and the former EU Environment Commissioner Janez Potocnik. The three speakers spoke on various aspects of the environmental service industry.

The presentation of the "IERC Honorary Award" at the end of the congress is part of the IERC tradition. MGG CEO Christian Müller-Guttenbrunn received this recognition in 2017. This year this prestigious award went to Norbert Zonneveld in the form of a large cowbell. The long-standing Secretary General of the EERA (European Electronics Recyclers Association) was honoured for his personal commitment to recycling electrical and electronic waste.

From drawing board to scrap yard

József Máthé was one of the driving forces when Müller-Guttenbrunn gained a foothold in Hungary over a quarter of a century ago. As the first Managing Director of Mü-Gu Kft. he went to his limit. In an in-depth interview, the 71-year-old talks about coincidences, pitted laws, divided plots of land and the company's current success.

Mr. Máthé, over 25 years ago the Hungarian MGG subsidiary Mü-Gu Kft. started operations in Budapest. You were the first managing director at that time. What were the beginnings like?
JÓZSEF MÁTHÉ: The history of Mü-Gu Kft. begins already in 1989. The Iron Curtain had just fallen when Herbert Müller-Guttenbrunn founded the company. However, it only existed on paper – there was not even a company site. So my first task was to look for one, which was not easy after the fall of communism in Hungary. In the end we found and bought the present site – a former slag heap of a foundry. In the summer of 1991, we started to build the necessary infrastructure. At the end of the year I also had to put together a workforce before we could start in February 1992 with 22 employees.

How did you even get on board this very daring project?
MÁTHÉ: That's a long story – but in the end it was a coincidence. Herbert Müller-Guttenbrunn had travelled to Hungary several times in the 1980s to buy scrap metal. In the process he often had to deal with Livia Herold. Now one must know that she was the wife of my colleague at that time. When Müller-Guttenbrunn founded the company, he asked her if she knew anyone for the job of Managing Director. She must have recommended me.

You certainly had perfect prerequisites: You worked in an engineering office and you spoke German. How did you learn the language?
MÁTHÉ: I had my first contact with the German language at school, from 1970 to 1972. I also worked in the GDR, more precisely in Dresden, in a printing press factory. After that I always did translations in the evening while working in the engineering office. I didn't know many words, but with the dictionary I picked them out and learned them bit by bit. After all, I also spent four years in Austria. I worked for our office in Linz at VOEST, where we developed a turnkey steelworks built in Russia.

During this time you were already a guest at the former Mü-Gu scrap recycling company, today's MGG Metrec, in Amstetten. Is that true?
MÁTHÉ: Exactly. We looked at various scrap yards so that we could optimally plan one for the steelworks. So we spent half a day at Mü-Gu. I remembered coming to Amstetten in February 1990 on the invitation of Herbert Müller-Guttenbrunn.

But you stayed there longer afterwards…
MÁTHÉ: Indeed, that's right. While I was always looking for a suitable area in Hungary in between, Müller-Guttenbrunn offered me to look at everything for a year. That was also important, because for me it was really one of the most far-reaching decisions in my life: before that I drew plans for some 23 years – now it was from the drawing board to the scrap yard.

Scrap yard is a good catchword. What was the work like at the scrap yard of Mü-Gu Kft. in the early 1990s?
MÁTHÉ: We started production with an old scrap shear from Amstetten and a small mill. We became well known in the trade relatively quickly. We achieved good results in the early 90s. On the one hand with the small scrap dealers, for whom we exported scrap abroad on our behalf – not an easy matter at that time. On the other hand, due to the fact that we took over the dismantling of the old 2-stroke cars – for example Trabi and Wartburg – after a tender. There were only two to three thousand cars that were professionally scrapped each year, but the newspapers reported about it.

Exactly at this time there was also a big fire…
MÁTHÉ: Yes, unfortunately our little mill burned down one Saturday night in 1994. Afterwards it turned out that a glowing part ignited everything very slowly. We were insured, but there was still a considerable loss. The mill was finally replaced a few years later by a large shredder.

What changes did this bring?
MÁTHÉ: The shredder was put into operation in September 1998. At that time, we thought that the larger plant would enable us to work more economically, just as we did in Amstetten. However, the Hungarian market could not be compared with the Austrian market. At that time, the steelworks in Hungary still took over the scrap that had been compressed into packages. So the traders could also sell a lot of waste while we separated everything. As a result, the purchase prices for the shredder pre-material were much too high for us at that time.

That is, you had economic problems?
MÁTHÉ: Yes, we wrote dark-red figures at the time. There were other reasons for this besides the high purchase prices. One of them was the flourishing corruption. As a subsidiary of a foreign company, we could not and did not want to participate in this. However, this meant a clear disadvantage in the market, for example in tenders. Another very decisive point were the loopy laws that ultimately cost us millions in non-refundable VAT.

How was that possible?
MÁTHÉ: The reason was that at that time the entire price including VAT was paid out to the suppliers. However, many of the companies that were active on the market at that time disappeared from the

scene after a few months without having paid VAT to the tax office. We were therefore not allowed to deduct VAT, because according to the tax office we should have checked this better. We fought for this money in court for 16 years, but we lost the case. Here we really must say that the Müller-Guttenbrunn Group has shown a great deal of patience. Others would certainly have thrown in the towel. Herbert Müller-Guttenbrunn already predicted at the time: “It will take a few years for everything to settle,” and fortunately it did turn out like that. Meanwhile, there is a new value added tax law, so that the VAT is no longer paid out, but is only issued as a credit note. Five years ago a new metal law came into force in Hungary, so that now all companies dealing with metals and scrap have to register. So it can no longer happen that the companies suddenly disappear.

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"At that time, we thought that the larger plant would enable us to work more economically, just as we did in Amstetten. However, the Hungarian market could not be compared with the Austrian market."

So disputes were the order of the day?
MÁTHÉ: Yes, there were problems time and time again. For example, after the construction of the shredder, when we suddenly no longer knew where to dispose of the waste from the shredder. It is important to know that there were hardly any safe landfills in Hungary at that time. So we did not find a proper and suitable landfill and the newspapers already wrote that we delivered hazardous waste to the landfills. That was a serious battle with the Ministry of the Environment. We had to temporarily store around 3,000 to 4,000 tonnes of waste on our own premises. Fortunately, particularly foreign companies invested and built suitable landfills so that we could dispose of our waste properly eventually.

This means that you always had to struggle with extraordinary challenges as Managing Director?
MÁTHÉ: Definitely more often than I would have liked. Another anecdote, for example, kept our company busy for 14 years. It was about our land, which we acquired from the foundry. A part of it actually belonged to another property. When the foundry went bankrupt, the administrator of the estate was very subtle and we had to wait 14 years before everything was clarified. Since the second property was then sold, there were suddenly six different partial owners of this one property, which was registered under a property number in the land register. In concrete terms, this meant for us that we had to obtain the consent of all the other five property owners for each permit. In 2013, for example, our environmental permit expired. Four neighbours had already signed for the new permit, but one neighbour was totally unwilling to sign. Fortunately, we finally succeeded in obtaining our own property number from the land registry office. This means that the neighbours are of course consulted during the approval procedures, but we no longer need a signature that one can so easily refuse.

That was certainly not an easy situation…
MÁTHÉ: It hadn't been easy before that, either… We also had problems with the power station, because the electricity was switched off. The reason: the electricity came to us via a transformer house that belonged to the foundry. Although we paid our electricity to the foundry, it did not transfer any money to the electricity supplier. So we all had our electricity cut off – that meant no lighting, no functioning office equipment and no running machines! We had to bring three diesel generators from MGG Metran in Kematen to Budapest. With these we then supplied ourselves with electricity for almost half a year.

These many problems must have been a tremendous burden for you, right?
MÁTHÉ: It was. In 2003 I had a heart attack – certainly because I had been smoking until then. And I was someone who couldn't leave his problems behind when he left the company, but I dragged them home with me. I spent ten days in intensive care – at least I've never smoked a single cigarette again since then, and now I work out several hours a week on the ergometer. Fortunately, Herbert Müller-Guttenbrunn arranged for a specialist in Austria so that I could have my blood vessels examined and do rehabilitation. I am very grateful for this to this day.

After that you handed over the management of the company…
MÁTHÉ: Yes, I did. I did not want to and could not go on like this. That's what I told the owner family. In addition to all the challenges that had to be mastered all the time, I had one problem above all: I couldn't lay off anyone, but unfortunately I had to do it more than once. That was really bad for me.

But you're still working for the company. So you took on another job?
MÁTHÉ: In addition to Mü-Gu Kft., there was also the trading company Metfer, which belonged to the Müller-Guttenbrunn Group. The Managing Director – the aforementioned Livia Herold, closing the circle – retired. Herbert Müller-Guttenbrunn was generous to me and offered me this position. Although Metfer had his own office, I was still constantly at the scrap yard of Mü-Gu Kft.

With your 71 years, you have retired long ago. Nevertheless, you are still active in the company...

MÁTHÉ: Indeed, I retired in 2007. Since then I have been working as a freelance consultant for Mü-Gu Kft. – but in reality I am doing everything that is needed at the moment. And it's just great fun. With the young team around Nándor Hoffmann, things have been really going uphill in recent years. The owners' patience has paid off. As things are going really well just now, we can make the necessary investments. We have already installed a new wet de-dusting system in our car-shredder and next year a new cyclone filter will follow. The office building is to be extended and I hope that we will soon be able to afford a new hydraulic scrap shear. It is also very important for Mü-Gu Kft. that we are currently working on developing a new plot of land as our future non-ferrous metal site and this plot of land is located only a few kilometres away from our current scrap yard. So, you can see that a lot is happening right now. I am particularly pleased about these developments after having been around from the very beginning.

We hope that you will continue to follow this positive path for some time to come and wish you continued fun with your work!

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