



Bundesministerium
für Wirtschaft
und Energie



MITTELSTAND
GLOBAL
MARKTERSCHLIESSUNGS-
PROGRAMM FÜR KMU

German-Slovenian Recycling and Waste Management Performance Event

Durchführer



Contents

1. Preface	4
2. Industry overview in Germany	5-6
3. EEW - Energy from Waste GmbH.....	7-9
4. FAUN Expotech GmbH & Co KG.....	10-12
5. LIB Lünig Ingenieur Beratung GmbH.....	13-14
6. MUEG Mitteldeutsche GmbH	15-16
7. Ressource Abfall GmbH	17
8. SSI SCHÄFER - Fritz Schäfer GmbH	18-19
9. STEINERT Elektromagnetbau GmbH	20-21
11. Wastecon AG	22
12. Program	23-25
13. Sources	26

Preface Introduction

Dear participants of the performance event on Recycling and Waste Management,

Slovenia has been an EU member for 15 years. This membership also means the full adoption and implementation of the *acquis communautaire* in the environmental field. The country report of Slovenia in 2019 -as part of the review of the implementation of EU environmental policy- confirms the country's progress in the waste sector. Slovenia is a positive example of the ability to make significant progress in the field of waste in a short space of time through appropriate means. The recycling rate for municipal waste increased to about 58% (EU average 46%). Slovenia has already exceeded the 2020 target of 50% for municipal waste and is now focused on the post-2020 target. The success is mainly due to changes in the waste management policy, the move away from landfilling.

One of the priority tasks of Slovenia in 2019 is to increase the separate waste collection (esp. for biowaste), to improve the data situation for waste management and to close non-compliant landfills.

Germany has more than 40 years of experience in the waste sector. The first nationwide regulation was created in 1972 with the Waste Disposal Act. Today, the Circular Economy Act “Kreislaufwirtschaftsgesetz” forms the core regulation of waste regulations.

Unlike in the past, waste legislation is largely made in Brussels today. It is worth remembering that the new European Circular Economy Package was adopted by the European Parliament in 2018. It includes amendments to the Waste Framework Directive (Framework Act of the Package), the Packaging and Packaging Waste Directive, the Landfill Directive, the End-of-Life Vehicles Directive and the Electronic Waste Directive and impose a good basis for cooperation.

In the last forty years, a successful waste management industry has developed in Germany with 267,000 direct and indirect employees (about the size of the energy industry), approx. 11,000 companies and an annual turnover of approximately 70 billion euros. Germany has a world market share of around 10%, worth 2.5 billion euros, for the export of waste disposal machinery and equipment.

The German-Slovenian event on June 18th and 19th is part of the export initiative Environmental Technologies of the Federal Ministry for Economic Affairs and Energy, which was launched in 2016 and is being implemented by the market development program. In particular, it aims to support small and medium-sized enterprises in the sectors of circular economy, water management, sustainable mobility and air pollution control / noise protection when entering the market in promising foreign markets.

Dear participants, I wish you all good and successful contacts and talks in Ljubljana, interesting perspectives for future opportunities and cooperation! I would also like to thank everyone involved in its implementation!

Ministerial Council Malte Bornkamm,
Head of Unit of the Unit Climate Protection, Emissions Trading and International Environmental Policy
in the Federal Ministry of Economics and Energy

Industry overview in Germany

As mentioned in the foreword above, the circular economy of Germany has been impacted by the European Laws and European court decisions and it continues to be more and more directly linked to those. Over the last years the extended producer responsibility approach (EPR) of the EU has attracted more and more attention of all stakeholders and helped to improve the recycling and treatment processes. Due to the state based / decentralized law system in Germany responsibilities and power in circular economy relies on the states and on sub-law and regulatory base also with Municipalities. The waste management hierarchy has been implemented throughout the system in all states and is core to all actual and future discussions and approaches, ensuring a well-functioning sector and providing all stakeholders a reliable legal, economic and ecological framework. Accordingly, the important steps following the avoidance of waste generation are the re-use (Germany already has specific return and re-use systems known as “Pfandsysteme” in place where households are able to return used packaging) and recycling followed by energy and resource generation and composting. The next step is treatment / incineration and landfilling. Regarding the latter, it is important to notice that the landfilling amount has consistently been reduced since 1998 and since June 2005 the landfilling of household waste is even forbidden.

Nowadays, Germany is generating around 400 Mio. tons of waste per year, out of which about 98% of it has been sent to specific treatment facilities. Herein included are primary and secondary waste streams (i.e., waste that has been pre-treated or imported). The hazardous waste accounts for about 7% of the total amount. The amount of waste generated by construction and demolition accounts for more than 50%, the water- and wastewater as well as related waste counts for about 12% and about 10 % of treated waste has been generated by households, with waste generation per person and year in Germany averaging at 450 kg.

Germany is deploying more than 15.568 treatment facilities in total to sort, recycle and (re-) treat the mentioned amounts of waste throughout all waste streams and fractions – e.g., in 2013 about 148 Mio. tons of waste have been treated in presorting and -treating facilities. In the same year about 4,5 Mio. tons have been treated at mechanical-biological-treatment facilities (MBTs) and about 14,7 Mio. tons have been treated in biological treatment facilities (compost & related outcomes). Incineration facilities count for about 46,1 Mio. tons of waste treatment and 55,4 Mio. tons have been sent to landfill. Due to the resource scarcity and the climate protection goals, Germany has undertaken serious steps to recover resources and to replace raw materials by secondary raw materials. To achieve that, the circular economy has created a connected platform and network which includes more than 4.300 recycling and treatment facilities. Out of those facilities 321 shredding machines are annually treating about 0,9 Mio. tons of electronic and electric waste (WEEE). Another 782 are treating plastics and produce so-called refuse derivate fuels (RDF). Usually 1.142 modern landfills are simultaneously in service.

These facts show the importance and progress of the circular economy in Germany. However, what has to be kept in mind when aligning an economy with climate protection goals is the importance of job creation and social responsibility. The circular economy in Germany is generating a turnover of 70 billion euros and accounting for more than 265.000 direct and indirect jobs in the areas of Research & Development, Collection and Transportation, Recycling, Commercialization and Treatment - up to Landfilling. In such terms this sector comes close to the energy sector, regarding the VDMA (German Association of the Manufacturing Industry) and BDE (German Association of the Sanitation, Water and Resource Industry) conclusion in the “Branchenbild”.

At the international level, the volume of the circular economy market is expected to rise from - 102 billion euros (2013) to € 170 billion euros in 2025. The different market segments show different growth rates. An annual growth of 10% is projected for the area of waste-material recycling. The German companies account for a share of about 17% of the global circular economy market. In the field of waste and recycling management, Germany is a leading global player with a market share of 23-25%.

The German circular economy consolidated in figures:

- Market turnover about 70 billion Euro / gross margin of 25 billion Euro
- Number of licenced companies > 3.000
- Employed workforce > 265.000
- Waste amount per year about 400 Mio. tons
- Deployed machines/facilities => 15.568
- Recycling rate of industry and manufacturing > 60%
- Recycling rate of households => 60%
- Recycling rate construction & demolition => 90%
- Material substitution rate between 14 and 16% (approx. 10 billion euros)

Since the mid-1990s, the circular economy in Germany has been dominated by privatisation measures resulting in a private-owned dominated business environment (“privatization trend”). This was especially the case for the collection, transportation and treatment of waste. In 2003 only 35 % of the waste collection companies were state or municipality owned. However, this trend did not continue for a long period of time. Over time, increasing numbers of companies were converted back to municipality-owned companies (“re-municipalization trend”). In 2015 about 45 % were municipality owned.

Nowadays the sector counts about 11.000 companies throughout Germany handling about 6,5 Mio. tons of waste per employee. The private companies in Germany are very much fragmented. There are only few larger corporations providing the whole value chain of the waste and recycling sector. Just the “big four” account for around 13% of the market. The majority and backbone of the German sector with a market share of more than 48 % consists of cap sized and small medium sized enterprises (SMEs) with an annually turnover above 50 Mio. euros.

For some sophisticated long-term services with huge investment and technology requirements, like MBTs and/or incineration, the Public Private Partnerships (PPPs) have proven to be a good solution. They are, however, still not exploiting their full potential.

Enabling and ensuring this status with a lot of innovations has only been possible by providing the sector with very clear specified, structured and well monitored framework at a realistic time line to implement the changes and adaptations. These fundamental frameworks are going to remain very important for future adaptations and transformation measures. The companies are prepared for further transformations and are willing to contribute towards a more sustainable economy in Germany and globally.

Besides the authorities and companies, there are also many non-profit-organizations and the society that are important and necessarily to be engaged. Some important stakeholders of the circular economy sector are the industry national and international wide focused unions and associations linking industry, Authorities, society and other stakeholders like, BDE (German association of the sanitation, water and resource industry), VDMA (German Association of the Manufacturing Industry), German RETech Partnership (association of the recycling and waste management industry with focus on export), CReED Center for Research & Education and many others operating on several levels.

In this project magazine, the German companies participating this event are presenting themselves and their product portfolio for the Slovenian market and stating their areas of cooperation and market development approaches with Slovenian counterparts.

The Slovenian counterparts will also find the contact details in this brochure to get directly in touch with the German companies and also using the platform of this event to elaborate chances and opportunities for future steps.

The organization team is looking forward to host this important event at an important time in Slovenia and is wishing also an interesting and interactive event to all its participants

Mrs. Armida Hemeling, CEO at Goduni International Advisory

EEW - Energy from Waste GmbH

Your partner for environmentally-friendly thermal waste treatment

EEW Energy from Waste (EEW) is the leading pure-play energy-from-waste (EfW) company in Germany and Europe, and operates 18 EfW plants located in Germany, the Netherlands and Luxembourg with a throughput capacity of ca. 4.7 m tpa. EEW's plants generate annually ca. 3,900 GWh of heat and process steam as well as around 1,800 GWh power for an equivalent of around 700,000 households saving 1,000,000 tpa of CO₂. EEW operates a modern and technologically advanced plant fleet which is benchmark with regards to utilisation, efficiency and emissions. EEW plants operate to the highest technical and environmental standards. The company has a proven track record of integrity, reliability and environmental performance with decades of demonstrated operating excellence. EEW has vast expertise in building and operating EfW plants, having designed, developed and managed the construction of the majority of its portfolio in-house. EEW has around 1,050 employees.

Our offer: State-of-the art solutions for Slovenia and Central and Eastern Europe

In offering municipal solid as well as commercial & industrial waste disposal services to our customers, we help to divert waste from landfills avoiding harmful emissions and ensure that millions of tonnes of non-recyclable materials are used as fuel to create needed electric power, steam and heat. We generate clean baseload power from solid waste, creating local energy for communities where local waste becomes fuel for local power. EEW guarantees municipalities and companies reliable waste management services, environmentally friendly production of energy as well as customised, sustainable and forward-looking solutions.

In Slovenia and the Central and East European region, we offer to design, build and operate EfW plants based on grate-firing technology



Our expertise

Broad experience

EEW has been planning, building and operating energy-from-waste plants that set standards across Europe for more than 25 years. As the market leader in Germany – belonging to the top ten worldwide – EEW is operating 30 combustion lines.

Our plant design and layout cover functional architecture and state-of-the-art combustion and flue gas cleaning technology considering future market developments as well as changes in legislation.

The efficient and cost-effective operation of our plants results in operational excellence. We are experienced in establishing and maintaining Public Private Partnerships. Based on the customer demands we provide tailor-made solutions to municipalities. At the same time, industrial companies are benefiting from the delivery of sustainable energy. Finally, EEW is experienced in gaining planning consents, environmental permits but also in engaging with the public. EEW is committed to being an actively engaged community partner in the communities in which we do business. We maintain strong working relationships with our host communities and surrounding areas. As a long-term neighbour and partner, EEW's plants serve as the catalyst for development and growth, creating or enhancing the infrastructure to attract new industry and create new jobs.

With all our skills and expertise, we are prepared to contribute to optimise the waste management in Slovenia and the Central and East European region.

Highest quality standards

EEW is committed to protecting public health and the environment. Our plants use advanced environmental control systems to meet and exceed some of the most stringent environmental standards in the world while safely producing clean, renewable energy for nearby homes and businesses. Protecting the health and safety of our employees and the communities we serve is our highest priority. We are proud of our industry-leading safety programmes and understand that the cornerstone of our success has been our strong commitment to safety.

EEW's certificates:

- Certified quality management system (ISO 9001)
- Certified occupational health and safety management system (BS OHSAS 18001)
- Certified environmental management system (ISO 14001)
- Certified energy management (ISO 50001:2011)
- Our plants are also certified waste management facilities pursuant to the Ordinance on Specialised Waste Management Companies

Our portfolio

Overview of operational plants

EEW is operating 18 energy-from-waste plants in Germany, the Netherlands and in Luxembourg.

Moreover, EEW is engaged in developing projects in Poland and other Central and East European countries, Northern Europe, South-East Asia and the Middle East.

Example: High environmental standards and sustainable energy supply concept in the Netherlands

In the Netherlands, EEW is operating an EfW plant in Delfzijl commissioned in 2010. It is located nearby a nature conservation area and thus fulfils highest environmental standards. Due to the increased energy demand of our customers the plant is currently being expanded by a third line which will be fully operational in 2019 having a throughput capacity of 192,000 tpa

Technical Data

Commissioning	2010
Total investment	160 million Euros
Capacity	384,000 tonnes
Number of combustion lines	2
Calorific range of waste	8 – 16 megajoules/kilograms
Combustion temperature	>850°C



EEW has been responsible for designing, engineering, building, financing, operating and maintaining the plant.

Example: Public Private Partnership Project in Luxembourg

Since 2010, EEW has been operating an EfW plant in Leudelange, Luxembourg. This 174,000 tpa facility is owned by the boroughs of Luxembourg associated in SIDOR Syndicat Intercommunal, a special purpose association for waste treatment in Luxembourg. It was designed to guarantee disposal security to the city and 34 municipalities in Luxembourg. In addition, it turns commercial and industrial waste into energy. As a result, it provides 89,000 megawatt hours of electricity per year. This equals to the power demand of around 26,000 households in Luxembourg.

Technical Data

Commissioning	2010
Total investment	100 million Euros
Capacity	174,000 tonnes
Number of combustion lines	1
Calorific range of waste	8 – 14 megajoules/kilograms
Combustion temperature	>850°C



EEW was responsible for the turnkey design, build, finance, operations and maintenance of the EfW plant.

Example: Public-Private-Partnership Project in Poland

In July 2017, EEW won a tender for a 29-year PPP contract for the construction and operation of an EfW plant procured by the city of Gdansk. The contracting authority is ZUT - Zakład Utylizacyjny Spółka z o.o., the municipal waste management company of the City of Gdańsk.

Technical Data

Planned Commissioning	2021	
Total investment	Ca. 103 million Euros	
Capacity	160,000 tonnes/year	
Number of combustion lines	1	
Calorific range of waste	Ø 11 megajoules/kilograms	
Combustion temperature	>850°C	

EEW will be responsible for designing, engineering, building, operating and maintaining the plant.

Contact

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FAUN Expotech GmbH

Your partner for environmentally-friendly transportation solutions

Company

FAUN is part of the Kirchhoff Gruppe and one of the most successful, privately owned, manufacturers of waste disposal vehicles in Europe. The Head Office and main production is based in Osterholz-Scharmbeck (Lower Saxony), however they have international operations in many countries and worldwide FAUN has more than 1,000 employees. The company bases its success largely on the commitment and motivation of its employees. Sustainability and efficiency are the forces driving FAUN every day.

Among other memberships and engagements, FAUN is a member of the “Klimaschutz durch Kreislaufwirtschaft e.V.” (Association for climate protection through the circular economy). The objective of this association is to promote the exchange of ideas and joint projects between companies and organisations that actively address climate protection and want to advocate further common development of the economic potential of North Rhine-Westphalia.

As early as 1979 FAUN manufactured the AK 436 sweeper, which featured reduced exhaust emissions, low noise and high fuel economy. In 1991 FAUN received the world's first eco-label, the “Blue Angel”, for the VEGA road vehicle. With the current hybrid vehicle, ROTOPRESS DUALPOWER, we are setting new trends in fuel economy and low-noise waste disposal.

Product offering

With over 1,000 employees FAUN is working tirelessly to deliver the FAUN brand promise of reliable progress consistently and worldwide. The products have one primary task – to clean the environment – and this is the objective throughout the entire organisation. FAUN supplies its products via a comprehensive distribution network with 90 service and distributor outlets on all continents. FAUN is supported by 500 international service technicians. The FAUN standard is communicated through intensive training and close co-operation. In this way FAUN maintains a global presence and are always available locally for all customers.

The benefits of the FAUN ECOPOWER options



LOW-PRICED SAVINGS

- Lower fuel consumption



REDUCED NOISE EMISSIONS QUIET

- Significantly lower noise emissions



REALLY CLEAN FOR THE ENVIRONMENT

- Concepts for sustainability are now highly relevant for both local authorities and private companies.
- The reduction in toxic emissions has a highly positive impact on your CO₂ footprint.



HYDRAULIC ENERGY RECOVERY FOR THE LIFTER

The hydropower option offers the possibility of environmentally friendly, economic refuse collection by installing a hydraulic accumulator which is charged by the hydraulic pump during braking. The accumulated energy is then used to run the lifting and tipping system. The kinetic deceleration energy of a conventional refuse collection vehicle is normally given off as waste heat into the environment and is therefore “lost” in terms of running the vehicle. Hydropower converts most of the vehicle's kinetic deceleration energy into hydraulic energy. The FCS (Faun control system) for the body controls the braking energy which is used to fill the hydraulic accumulator. As soon as the accumulator is filled, the accumulated energy is used to drive the lifting and tipping system. The energy obtained in this way is sufficient for several tipping procedures, without having to increase the engine speed. A second pressure accumulator with a smaller volume is switched in parallel to the first and this one is only intended for hydraulic starting of the main engine.

E-POWER - Electric auxiliary drive

Another option in the search for lower fuel consumption and reduced noise emissions is the battery set that is charged via the “plug-in process” and used for the electrical operation of the body and lifter of refuse collection vehicles. This system is called e-power.

With conventional vehicles, the main engine provides energy for compacting and emptying containers via the pump linked to the auxiliary drive. With e-power vehicles, a battery pack which can be charged overnight at low power consumption times provides the energy for the electrical drive of the body and lifter. There is further potential for saving fuel if the vehicle engine is switched off when loading. The large electrical energy accumulator means the engine can easily be started again electrically to continue on its way. This option depends on the chassis manufacturer's approval.

DUALPOWER - Generating energy when you brake

The requirements for a refuse collection vehicle engine are very wide-ranging and vary greatly during a daily round. With the dualpower option FAUN has created an optimised drive train with its own diesel-electric power unit. The chassis engine is switched off during collection. The energy of the braking process is accumulated electrically and reused in a sensible way for driving and working during collection operations. This not only relieves the stress on the main engine, but also on our environment. Instead of being fitted with energy-intensive compressed air brakes, dualpower vehicles are equipped with electric brakes which ensure energy recovery and less brake wear. When used in combination with an additional diesel generator switched on at the right time, fuel and CO₂ emissions are reduced by a third. The possibility of the chassis engine being switched off during collection operations and also the fact that the small power generator is enclosed in a sound-proofing capsule mean a massive reduction in noise pollution for loaders, drivers and the environment, as well as for your customers.

Transportation solutions

DISPOSAL

FAUN waste disposal vehicles (rear loaders, side loaders and front loaders) and sweepers are systematically designed to work reliably, efficiently and sustainably. FAUN offers a wide range of products to provide a tailor-made solution for each particular task. FAUN waste disposal vehicles combine innovation and modern technology. In below you find two of FAUN disposal vehicles:



FAUN REAR LOADERS

Cleanliness at every turn: The Rotopress stands up to any comparison when it comes to economy. The sophisticated drum principle makes the Rotopress the most economic refuse collection vehicle for the disposal of household waste and similar commercial waste – in multi-shift operation too. The operating costs for the Rotopress are in fact lower than all other refuse collection vehicle concepts for the same load capacity. The appropriately dimensioned lifting and tipping equipment means the Rotopress can empty all containers, from 60 litre bins up to large 1,100 litre waste bins.



SWEEPERS

The new FAUN Streamline-generation sweepers combine the FAUN air circulation system with an optimised air flow system, resulting in improved suction performance. The new, patented V-shaped suction shaft increases the sweeper's suction power while reducing wear on its components. FAUN fits its sweepers with lighter, performance-optimised engines to save space and increase payload. FAUN uses small, light diesel engines to reduce fuel consumption. The FAUN air circulation system reduces fine particulate emissions by 50% compared to a standard suction sweeper without air circulation technology. The blower is positioned directly in the air flow. This frees up installation space for an additional water tank. This tank also acts as a noise barrier between the blower and the driver's cab. With the new Streamline Generation there is no additional auxiliary motor and only one brush strip has to be changed, which is also now more accessible. This means that there is less risk of breakdown and maintenance expenses for the sweepers are further reduced..



SPARE PARTS

FAUN disposal vehicles are worth their money. In order to maintain this value, we process high quality materials and original spare parts. Thanks to the high availability of spare parts, the downtime of vehicles is minimized. Do not take any risks and only order FAUN original parts. Because only where FAUN is on it is FAUN in it. So that you get the right spare parts for your vehicle, we now provide detailed spare parts lists online. Based on the construction number, you will quickly and easily find the right spare part and everything else you need for the repair.

LEASING & FINANCING

A vehicle fleet is not only a capital commitment, it also costs a vast amount of time and money to maintain. FAUN offers readily available waste disposal vehicles at reasonable costs. Whether you need a sweeper or a waste collection vehicle for a day, a week or longer, FAUN offers you a bespoke finance agreement to suit all of your requirements.

VEHICLE TRANSACTION PLATFORM

Get a straightforward and speedy overview of the wide range of used vehicles on offer. If you need further information about the vehicles or would like a quote, we will be happy to help you.

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LIB Lünig Ingenieur Beratung GmbH

Your partner for engineering solutions

Company

LIB is a German engineering company offering consulting and support services for the public and private sectors in the field of recycling economy. The company is based in Germany and operates in various countries in Europe and abroad.

Product range

The LIB expert team trains and advises the public and private sectors on the implementation of revised regulations, and local waste management plans. LIB accompanies its clients in all steps necessary for the implementation of a project. During the process of consultation, planning, approval, and implementation, the waste hierarchy is put into place at the national and local level together with the client.

The joint technical and pragmatic implementation of solutions leads to higher profitability of your company. Almost all Member States of the European Union have revised their regulations on solid household and commercial waste. The revised regulations redefine the management of urban and construction waste and demolition waste. These regulations apply to all industrial and non-industrial waste producers. The new regulations require a separation of waste and a registration of it, which exceed the previous separation collection obligation. Through the consultation of the LIB, a tailor-made implementation of the new directive for the public and private sector can be developed for the public and private sectors.

More services of LIB:

- Independent reviews for the recycling economy
- Preparation of expert opinions
- Evaluation of the market situation prior to municipal and commercial tenders
- Evaluation of effects resulting from changes in the legal regulations for the company
- Development of adequate measures to legal changes
- Independent evaluation of your waste disposal service and comparison to the general market situation.

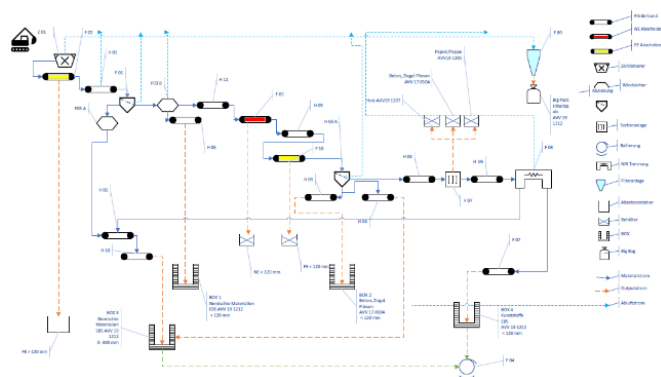
Few of LIB references:

- Preparation and implementation of approval planning for a waste treatment plant (50,000 t annual tonnage) in Thuringia
- Development of a concept for the temporary storage of substitute fuels
- Development of a contingency plan for non-existent disposal capacities of alternative fuels
- Preparation of a topic-specific statement on the development of waste prices until 2020 in the run-up to a municipal tender
- Implementation of an innovative interim waste storage facility
- Planning and construction supervision of drying halls for sewage sludge
- Preparation of implementation concepts for the adaptation of sorting plants to the new requirements of the Commercial Waste Ordinance for the treatment of mixed construction and municipal waste
- Adaptation of process sequences to waste acceptance points to increase the removal of recyclables

Few of realized projects:



Waste treatment plant in Thuringia



Block flow diagram for the extension of a commercial waste treatment plant



Construction of transshipment halls in Wolfsburg



Innovative interim storage of waste

Contact

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MUEG Mitteldeutsche Entsorgung GmbH

Your partner for environmentally-friendly hazardous and non-hazardous waste treatment

Company

MUEG Mitteldeutsche Umwelt- und Entsorgung GmbH was incorporated in 1990 with the aim of removing the marks left in the past by the lignite and chemical industry in south-east Germany. Ever since the incorporation of our company in Braunsbedra in the German state of Saxony-Anhalt, we have had two strong partners to support us as shareholders along our way:



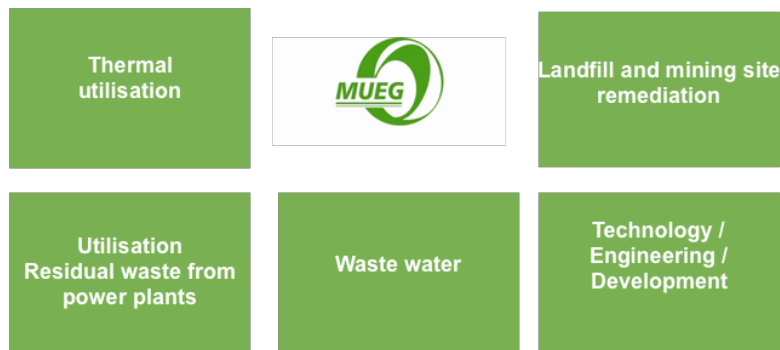
Mitteldeutsche
Braunkohlengesellschaft
mbH, Zeitz



REMONDIS Kommunale Dienste
Ost GmbH, Prützke

Product offering

Approximately 250 staff at the company sites in south-east Germany and on location with projects in Germany and abroad ensure that MUEG has been able to establish themselves throughout Europe as a reliable and innovative partner in waste disposal and environmental remediation. Even today, 10 percent of our staff work in research & development, helping to secure and extend our position on the market. Furthermore, close partnerships with the region's universities and research institutes reinforce our development know-how.



Based on the experience of recent years, MUEG managed to build a wide-ranging, client-oriented service portfolio.

- Remediation of brownfield sites, contaminated sites and landfills;
- Recultivation of post-mining landscapes;
- Recycling and disposal of waste materials;
- Disposal of residual waste from power plants • Planning and development of intelligent and environmentally friendly solutions for ecological problems.

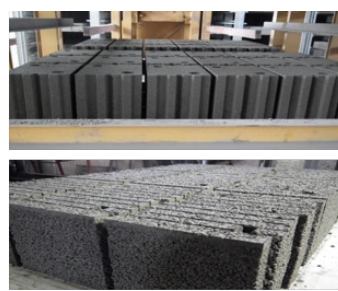
Whenever possible, we re-introduce treated waste materials back into the economic cycle in the form of recycled products. One success story in this field is the industrial recycling of gypsum-containing waste: We operate the first stationary treatment plant for such materials in Germany, which has earned us the Environmental Award given by the State of Saxony.

Solutions

In the future, markets such as the construction, energy or automotive sectors, which use highly complex composite materials, will be posing major challenges for the environmental sector. MUEG for instance has filed a patent for recycling the rotor blades of wind turbines – just one building block of our strategy for the future!

In the same way that natural resources are finite, landfill space is becoming increasingly scarce as well. What are the strategies society can use to face this challenge in the future? Ideas on how to recycle waste will no doubt have to be a big part of the solution.

The need to meet international directives on the removal of environmental damage within the European Union and beyond opens up more international markets for MUEG with its long years of project experience.



For more than 20 years, we have been contributing immensely to the safe operation of power plants in Germany by recycling residual waste from such plants. The most important of the various residual materials we are able to utilise in our plants are filter ashes from large-scale power plants, wet ashes and FGD gypsum. We treat ashes from incineration in a two-step process specially developed by ourselves. They are then used, for instance, for closing mining cavities, securing landslide-prone landfills or as construction material in road, path and dyke construction. Additionally, applications in the field of conditioning acid tar-containing waste, soil conditioning and stabilisation of slurries have been realised by MUEG in projects.

The focus of landfill and mining site remediation is on the sustainable and economical utilisation of mineral waste. MUEG uses this type of waste to close mining cavities, secure landslide-prone areas, design landscapes and recultivate post-mining landscapes.

A total of 1.5 million metric tonnes of mineral waste is recycled per year at our locations with five recycling and earth exchange sites. Mineral waste includes: earth, gypsum-based construction materials, building rubbish, roadway rubble from the construction industry, roadway construction or gardening and landscaping, as well as used sand, slags and ashes from industrial areas.

Contact

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Ressource Abfall GmbH

Your partner for engineering solutions

Company profile

Since 2008 the Ressource Abfall GmbH (RA) provides advice and support to municipal companies in waste management and sanitation departments as well as to other companies and institutions in the waste management sector in Germany and abroad.

Product offering of Ressource Abfall GmbH

Ressource Abfall GmbH (RA) benefits from more than 10 years' experience of its managing director, Dipl.-Ing. Theo Schneider, as member of the board of directors of a large local waste management utility. He is familiar with strategic and operative planning and development of enterprises and structures in waste sector, amongst others trained during a merging process. His more than 25 years' experience in waste management and waste treatment sector include planning and decision preparation, development and implementation of waste collection systems, approval procedures, construction and operation of waste treatment plants, such as MBT, anaerobic digestion and composting plants as well as other recycling facilities. Since September 2017 RA is supporting with its team a Chinese state owned company on the way to construct and operate a large recycling facility with several lines for different plastic waste fractions. This project is executed on behalf of German state bank KfW

Few references of Ressource Abfall GmbH

„Born from practical experience to serve the needs of practical experience!“ This motto encompasses the services offered since 2008 for the protection of the environment, climate and resources; operational optimisation; project management; increase of efficiency and solutions for other problems and management tasks. Ressource Abfall GmbH has executed projects successfully alone or in cooperation with partners for a lot of stakeholders like utility companies, national Ministries, funding agencies (KfW, GIZ, ADB) and private companies in more than a dozen countries in Asia, North-Africa, Europe and South-America including some of them co-financed by European institutions. Ressource Abfall GmbH supported SNAGA d.o.o., Ljubljana, between end of 2010 and early 2018 during all steps of RCERO realization from tendering process to trial operation and take-over. Main focuses were special technological issues like SRF-production and other questions concerning mechanical treatment of waste as well as increase of quality of products.



Construction of RCERO, Ljubljana



Trial operation of RCERO, Ljubljana

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SSI SCHÄFER - Fritz Schäfer GmbH

Company Profile

SSI SCHÄFER is a medium sized company with more than 8,500 worldwide. The 80-year history of SSI SCHÄFER is characterised by development. Today, the company is numbered among the leading worldwide of storage and logistic systems as well as collection refuse and recycling material. The group of companies in the 5 continents with numerous subsidiaries. The current product range warehouse, factory, workshop and office equipment as well as for refuse collection and recycling. The products are sold worldwide sales organisations with soundly based technical advice. Observance system and high quality standards are dominant in the organisations principle is especially valued by the company's customers, since continuity guarantee economically effective installation with long forms an important basis for a partnership based on trust which SSI creates and maintains with its customers.



employees continuous suppliers systems for undertaking is on includes container systems through own of the whole philosophy. This quality and service life. This SCHÄFER

SSI SCHÄFER and Waste Management Systems

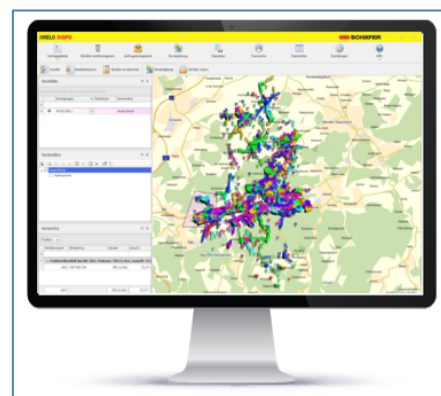
The present improved system of refuse collection, conforming to current efficiency, using the standardised, mobile refuse bins and the standardised lifting equipment, was introduced into the Federal Republic of Germany during the seventies, followed by extension into Western Europe. SSI SCHÄFER is one of the first and leading manufacturers of this type of containers and currently produces more than 2,000 different container variants for the fields of storage/logistics, factory organisation, waste management and recycling. The impressive proof of quality which, for example, stands as evidence, is that in many collection areas there are bins, which were supplied more than 30 years ago and are still in service, without defects, up to the present day.

Technical Competence and Experience

As an organisation "from the early days" the company has more than basic knowledge of the fields of refuse collection and recycling as well as storage expertise at its disposal. Permanent traditional practical contact with operational activity and an active exchange of experience in world markets enable knowledge and development trends to influence product development.

The Way to Direct Conviction

Whoever consults SSI SCHÄFER will receive detailed and technically competent producer will show all the characteristics of the product with uncompromising practical demonstrations of operational installations. The high-quality level lets the itself. SSI SCHÄFER helps with the development of economically efficient concepts management by providing further information about practical uses and installation



advice. The objectivity using product speak for for waste possibilities.






SSI Schäfer and IMELO

In the field of waste management SSI Schäfer is always looking for innovations and new developments. In 2015 SSI Schäfer took over IMELO. IMELO is active in the field of soft- and hardware solutions for the waste logistic.

IMELO Systems are proven Soft- and Hardware Solutions for the waste logistics and they exist already more than 15 years.

The IMELO Systems are worldwide used in more than 850 trucks. More than 1.500 users are connected to IMELO in the offices.

The five parts of IMELO:

				
<p>IMELO CONSULT has been developed to define a specific customized Waste-Logistics-Set-Up by the help of professional Advisory Services. Within the scope of individual and flexible customer oriented projects all relevant parameter for the Waste Logistics are collected and compiled to a performance and cost analysis.</p>	<p>The Product line IMELO OFFICE pays off by the practice oriented functionalities of the different software modules and thus is the optimal Planning – and Controlling Tool for a modern Waste Logistics and electronic order processing.</p>	<p>The IMELO FLEET components are marked by robust and Waste Logistics proved technology. A modular and in widest range open system architecture allow an adaptation of various system and functionality components. Flexible On-Board Software Solutions guarantee for the efficient operation of the IMELO FLEET systems.</p>	<p>Competent back up personnel and perfect services are reachable at all times during the distribution period. Experienced technicians and developers provide a high quality and fast responsive software and system support.</p>	<p>Hardware and Software components for all types of bins. The high availability of IMELO PARTS simplifies the decision. No matter if 50 or 50,000 transponders– LF, HF or UHF. The variety is large and we will find the right solution for your application.</p>

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SSI SCHÄFER

STEINERT GmbH

Company Profile

STEINERT GmbH provides innovative solutions for the separation of valuable materials, increasing customer profitability through higher recovery and reducing operational costs. In the areas of treatment of secondary and primary raw materials, the company operates in both the resource recovery and mining sectors.

Here STEINERT is a global leader in consulting, manufacturing, installation and services in innovative sensor sorting and traditional magnetic separation technology.

Based in Cologne for 130 years, and with around 300 employees worldwide, STEINERT provides a global network to support its customers with local contacts and local expertise.

The philosophy of Steinert in brief:

The separation technology business unit has been offering top technical separation solutions for the primary and secondary raw materials sector. Thanks to the application of an extremely wide spectrum of methods, ranging from sophisticated magnet technology to state-of-the-art sensors, the customers of Steinert receive materials in their purest form. Important resources are conserved as a result.

Due to its vast experience with separation technology, the business units of ANOFOL can offer high-precision coils of anodized aluminium strip for electrotechnical applications. Our customers worldwide greatly benefit from the wide range of applications associated with these coils.

Today, Steinert offers a wide range of high quality technical solutions that are unique worldwide. By listening to its international sales network and production companies on various continents, Steinert understands national, global and local requirements and can contribute to economic success with its solutions.

Products and services:

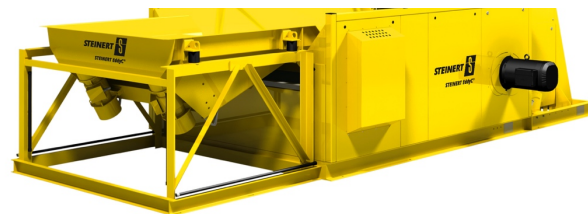
More than 130 years ago, Ferdinand Steinert recognized the need for complex sorting methods and technologies. Today, Steinert Group is taking his visions into the future, providing magnetic separation and sensor sorting systems and equipments st

- STEINERT Induction, X-Ray, Laser, Color, NIR Combination Sorting divers sorting tasks in Scrap, Slag Waste applications and Mining Soluti
- STEINERT NES Eddy Current Separators for separation of non-ferrous
- STEINERT UM overband magnets for separation of ferrous metals;
- UniSort PR for plastic sorting and UniSort Black such as UniSort Black separation of black plastics.



Providing services around the machines and equipments:

- Resource Recovery Solutions
- Mining Solutions
- Mobile and other solutions



Used machines and efficient spare part service / 24 hour despatch service pos.....

Advisory, Training and other services upon request.

At Steinert, the customer can find the right product from its wide assortment, or work together with its experts to develop a customized solution.



Contact

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MAGNETIC + SENSOR SORTING SOLUTIONS

Wastecon AG

Company Profile

Consulting

- Material and resource efficiency;
- Sustainable environmentally oriented operating cost optimization;
- Waste management companies and waste Producers alike.

Have you ever thought about outsourcing your internal waste management?

Controlling

We pursue the new 5-step waste hierarchy diligently and support our clients to live up to their responsibilities and potentials. Therefore, we develop strategies and adaption sets for prevention, use, recycling, energy recovery and disposal of waste. We set up programs and projects fulfilling these basic requirement for an effective waste management in a company's numbers. Most of companies usually do not have such processes and procedures implemented. With regard to the field of waste management there are many companies using and working based on insufficient or wrong numbers, facts and data. Usually there is also a lack in proper data and facts in the manufacturing sector - e.g. regarding the assignment of waste figures for the specific packaging or individual products. We provide the companies with the right data, facts and figures and take over the monitoring and controlling on the behalf of our clients.

Concepting

We develop and implement waste management strategies by making our strategies available for the networks and collaborations.

Contracting

- We will review your disposal contracts and produce tender documents judge them, and this also lead through bidders conversations together with you,
- We combine order volumes and buy services on favorable framework conditions for you,
- certified dealer and broker for all types of waste, dangerous and not dangerous waste,
- certified disposal and waste management facility.

Constructing

We design and guide the implementation of construction of waste facilities and support the clients throughout the approval procedures.

Member of:



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Program

Performance event of technology suppliers and service providers on recycling and environmental services in Slovenia

from 18 to 19 June 2019 in Ljubljana

18 June 2019, Performance show, German-Slovenian Symposium and B2B on recycling and environmental service*

8:45 a.m. - 9:00 a.m.

Accreditation of German and Slovenian participants

Location: Slovenian Chamber of Industry and Economy - Dimicceva Ulica 13, 1st Floor - Ljubljana

9:00 a.m. - 9:10 a.m.

Welcoming and Greetings

By Mr. Mr. Zoran Jankovic - Mayor of Ljubljana

By Mr. Bostjan Gorjup - President of the Chamber of Commerce and Industry of Slovenia

By Mrs. Armida Hemeling - CEO of Goduni International and Moderator of the event

9:10 a.m. - 9:50 a.m.

Opening Speeches

by Representatives of the German and Slovenian Institutions:

- German Embassy - Mr. Bernhard Hauer - Deputy Head of Mission,
- Slovenian Ministry of the Environment and Spatial Planning - Mr. Marko Maver - State Secretary,
- Slovenian Ministry for Economic Development and Technology - to be announced
- Federal Ministry of Economics and Energy BMWi - Mrs. Christine Horn, International Environmental Protection.

9:50 p.m. - 10:40 p.m.

Status Quo and Quo Vadis "Recycling and circular economy" in Slovenia

For more than 3 years Ljubljana - the capital of Slovenia - has been a showcase and considered to be the best practice project in the South-Eastern European Union of a "Zero Waste" city with recycling rates of over 90%. The government, the local authorities and the EU Commission have supported this project and the results has been positive, so far. In the future, Slovenia plans to roll out this project nationwide and become an environmentally friendly and resource-saving model/country in the region. The presentation and discussion of the government programs and the "Framework Strategy 2050 of the Recycling and Closed Substance Cycle Economy" will be focusing on what has been achieved so far and what needs to be tackled in the future in Slovenia in order to meet the targets. This session will take place as part of a panel discussion:

- Slovenian Ministry of the Environment and Spatial Planning - Mr. Marko Maver - State Secretary,
- The EU Commission DG Environment - Ms. Maja Desgrees-Du-Lou - Directorate B Circular Economy and Growth,
- Slovenian Ministry for Economic Development and Technology - to be announced,
- City of Ljubljana - to be announced.

10:40 a.m. - 11:15 a.m.

Coffee break at B2B atmosphere

11:15 a.m. - 12:30 p.m.

A modern and resource-efficiency recycling and circular flow economy

One of the prerequisites for a functioning modern circular-flow economy is the mapping and provision of the entire value chain. The advancing digitalization also changes the circular-flow economy and has a direct influence on individual value-added steps.

- Presentations & Elaboration on the digitalization impacting the value chains by "LIB Engineering" & "SSI Schäfer Imelo" - Mr. Christoph Lünig and Mr. Kai Menzel,
- Presentations & Elaboration on the climate-friendly and low-emission collection and transportation services by corporation "FAUN - Kirchhoff Group" - Mr. Lucas Dörr,
- Presentations & Elaboration on the re-use and recycling models based on functional trading platforms by corporation "Wastecon" - Mr. Arne Grewe,

Question and answer session with audience.

12:30 p.m. - 1:30 p.m.

Lunch at B2B atmosphere

1:30 - 2:15 p.m.

Continuing modern and resource-efficiency recycling and circular flow economy on

„Recovery and Recycling“:

- Presentations & Elaboration on the planning and selection of state-of-the-art technologies, plants and systems by corporation "STEINERT" and "Ressource Abfall" - Mr. Björn Lövenich,
- Presentations & Elaboration on dealing successfully with hazardous waste by corporation "MUEG - Remondis Group" - Mr. Ulf Leistikow,
- Presentations & Elaboration on energy recovery and the role of the industry by the corporation "EEW - Energy From Waste" - Mr. Thomas Obermeier.

Question and answer session with audience.

2:15 p.m. - 2:40 p.m.

Coffee break at B2B atmosphere

2:40 p.m. - 5:00 p.m.

World Café and B2B atmosphere on the topics at "topic island":

1. Topic island 1 "Opportunities in the digitalized circular economy",
2. Topic island 2 "Efficiency enhancement in planning and logistics",
3. Topic island 3 "Platforms and markets for high quality secondary raw materials",
4. Topic island 4 "Waste to energy solutions for household, commercial and hazardous waste".

Conclusions and end of the official first day.

From 6:00 p.m.

Get-To-Gather with a dinner together

Dinner at a restaurant nearby the venue - for B2B pre-registered participants only.

June 19, 2019, Performance event, German-Slovenian symposium and object visit***09:00 a.m. - 9:45 a.m.****Second Day of the Symposium**

Location: Slovenian Chamber of Industry and Economy - Dimicceva Ulica 13, 1st Floor – Ljubljana

From planning to the financing of projects

In order to turn recycling and environmental service projects in Europe into success stories, the Slovenian Government, Local Authorities with the support of the EU Commission have created various platforms playing a key role in achieving the 2050 climate targets. The countries, alike Slovenia, are working on these targets nationally as well as cross-regional within the framework of coordinated program in multilateral cooperation. This discussion shall provide an overview of the project development and financing of past and upcoming projects as well as providing interesting cross-regional and cross-municipal approaches fostering cooperation between the Slovenian, German and other EU Member States.

- SRIP Circular Economy, Chamber of Commerce and Industry of Štajerska
- Speaker to be announced,
- Slovenian EKO Sklad (Eco Fund) - requested,
- Slovenian Enterprise Fund – requested.

09:45 a.m. - 10:15 a.m.**Successfully launching co-operations**

A panel discussion with participants from both countries to explain the expectations and requirements of both sides based on experiences and examples.

- Two Slovenian companies - companies and speaker to be announced,
- SSI Schäfer Imelo and EEW Energy of Waste - Mr. Menzel and Mr. Obermeier.

10:15 a.m. - 11:15 a.m.**Pitches and Matchmaking**

- Presentation of planned (concrete) projects by Slovenian companies, municipalities, cities, administrations based on interest matching (max. 5 min. each),
- Questions and answers (each pitch) by the German and Slovenian attendees (max 5 min each),
- Parallel to the continuation of B2B formats between German and Slovenian participant.

11:15 a.m. - 11:30 a.m.**Conclusion and end of the official bilateral symposium**

* This applies to all program components: Subject to any changes in the course of planning.

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Sources

BDE, VDMA, iTAD „Branchenbild der deutschen Kreislaufwirtschaft“ Oktober 2018;

Statistisches Bundesamt;

UBA Berichterstattung unter der Klimarahmenkonvention der Vereinten Nationen 2015 und nationaler Inventarbericht zum Climate Change 02/2016;

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www.ixpos.de/markterschliessung
www.bmwi.de

