



REMEX INTERNATIONAL



Michael Stoll, Chief Executive Officer of REMEX GmbH

Dear Sir or Madam,

More than 12 months into the ongoing pandemic, we are proud to report that company-wide health and safety measures are continuing to minimise the impact on our personnel. I would like to express my sincere gratitute for the concerted effort of all employees and partners of the REMEX Group, whose competence and perseverence during these challenging times have enabled our teams in Germany and abroad to keep operations running successfully.

With this in mind, we are pleased to announce that our financial results for last year have surpassed expectations, demonstrating further growth and stability. Investment levels remain high as we underline our committment to providing the best possible recycling solutions.

Read more about our latest initiatives and projects in this edition of our international newsletter. Feel free to > contact us directly if you have questions – and if you like our international newsletter, please take a moment to > recommend us.

Yours sincerely, Michael Stoll Chief Executive Officer, REMEX GmbH

> EXPANSION IN SINGAPORE

- > Investment in REMEX metal processing facility
- > Progress in miles
- > ADDED VALUE NOTIFIED
 - > REMEX leads the way in international waste management
- HALF-TIME IN SWITZERLANDNEW BROCHURES
- > NEW BROCHURES

EXPANSION IN SINGAPORE

Investment in REMEX metal processing facility



REMEX announces the successful completion of its new metal processing plant in Singapore after only 16 weeks of construction. The project, with an investment volume of approx. \in 3 million, was implemented on schedule despite severe restrictions due to the Corona pandemic. It was realised by > REMEX Minerals Singapore Pte. Ltd. together with the technical planning team of REMEX GmbH from Düsseldorf, Germany and Eggersmann Anlagenbau GmbH. "Strategically, the current investment supports our goal of further increasing the value added from metals extracted in our IBA processing plants", explains Michael Stoll, Managing Director of REMEX GmbH.

In Singapore, REMEX processes around 520,000 tons of bottom ash (IBA) per year from the city state's five waste incineration plants. In the course of processing, impurities are removed and val uable metals are recovered, including ferrous metals that are contaminated with mineral deposits due to the high moisture content of the ash.

The newly installed metal processing plant has a capacity of 200 tons per day and is used to dry and purify the iron scrap. It is located in a recently constructed hall on a 4,000 m² site directly adjacent to the area of the current ash processing plant. The cleaning process removes most of the mineral deposits, which increases the quality of the recycled metals considerably – with corresponding added value for subsequent reuse.

The purified ferrous metals are transferred to REMEX Metal Processing Sdn. Bhd. in Malaysia, a 50% shareholding of the REMEX subsidiary in Singapore. After further classification, the metals are marketed to international customers from the steel processing industry.

With our own metal treatment facility and improved logistics, REMEX is also realising relevant advantages in climate protection. Due to low storage capacities, the iron scrap previously had to be transported each day from the Singapore plant in Tuas to an interim storage facility several kilometres away for further processing, a procedure that is no longer necessary. In addition, the weight of the cleansed metal fraction is reduced by 35 mass percent through consistent post-processing and the removal of adhesions, which goes hand in hand with a measurable improvement in the CO₂ balance of the transport.

Progress in miles

As already reported in our 2020 newsletter, processed incinerator bottom ash from waste incineration ash (IBA) is planned to be used as a substitute for sand and gravel as so-called "NEWSand" in Singapore. Field tests with material samples from REMEX, among others, serve to identify future application possibilities – taking into account that two thirds of Singapore's land surface are dedicated water catchment areas. Therefore, the use of processed ash must be possible without environmental constraints. In connection with REMEX's participation in the field trials, a one-off transport of IBA between our plant in Singapore and the Netherlands was carried out.



The project started at the Singapore treatment plant in Tuas. Via truck and ship, 2,000 tons of IBA were transported to the REMEX subsidiary HEROS Sluiskil B. V. for additional treatment in the Netherlands. In the Dutch plant, further recycling techniques were used to remove the smallest metal parts and impurities before the ash was subjected to a thorough washing process. Finally, 900 tons of the washed granulate were shipped back to Singapore for use in the planned field test, including applications in road construction and concrete.

The Ministry of the Environment (NEA) in Singapore is monitoring the trials to determine whether the use of additional recycling technologies will meet the requirements for "NEWSand". The NEA envisages that "NEWSand" will enable the unrestricted recycling of IBA in the future. This would support the government's goal of reducing waste to landfill by 30 % per year from 2030 onwards.





International material shipments notified in 2020 by REMEX: 885,000 tons

In 2020, the REMEX Group assisted in the recycling of approximately 885,000 tons of mineral waste through the competent management of notification procedures – including road construction waste containing tar, bottom ash, filter dust, fly ash and other flue gas cleaning residues from thermal processes.

The need to ship waste abroad usually results from the fact that no adequate disposal options with the desired recycling or utilisation rates are available in the countries of origin. In regards to other sustainability aspects, such as climate protection, the transport of waste over long distances via ship or rail is often more CO2-efficient than transport via truck over shorter distances.

Find out more about REMEX notification competences and international waste management services in our > detailed article.

HALF-TIME IN SWITZERLAND



According to current waste legislation in Switzerland, thermal recovery of road demolition material containing tar is to be given preference over disposal. With a transitional period of ten years, the corresponding directive came into force in 2016; landfilling will only be approved in exceptional cases for another five years, i.e. until the end of 2025; after that, thermal recovery will become mandatory. The regulation specifically relates to waste with the waste list number 170301 with PAH contamistion > 1000 mg/kg and/or BAP values > 50 mg/kg.

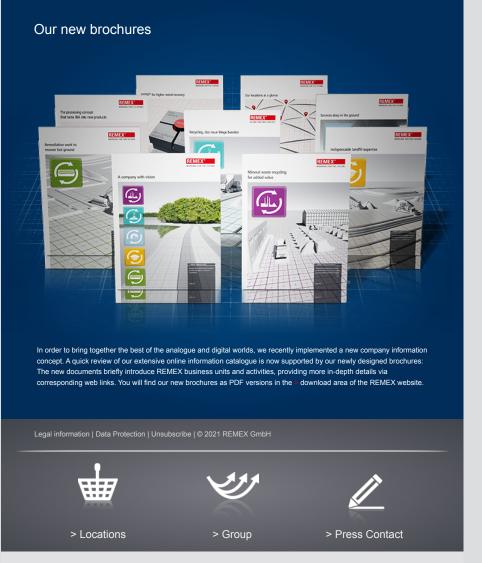
Basel-based > REMEX Recycling AG is one of the Swiss companies that recognised the potential of thermal recycling at a very early stage. Since 2013, it has offered the recovery option and, with the appropriate notification, ships the contaminated waste to thermal treatment plants in the Netherlands.



The material is received and handled at two transit terminals at the port of Basel and the port of Birsfelden. The capacity of the interim storage facilities amounts to around 5,000 tons each. A particular advantage is that the location in Basel enables cooperation with foreign ports such as Breisach in Germany or Strasbourg in France. Ships can thus depart from Basel partially loaded and accept additional material volumes in the aforementioned ports, which are then transported to the thermal plant in Rotterdam.

This kind of cooperation is implemented, for instance, with the REMEX company in France. For customers, the advantages are reflected in competitive prices. In addition, the transport utilisation improves the CO₂ balance of the entire waste management process. This, together with the full recovery of the processed material in the Netherlands, is a convincing option that is gaining increasing interest. If you have any questions, please contact our colleagues in > Switzerland and > France. Alternatively, visit our webpage > international.remex.de to learn more about REMEX international activities.





REMEX GmbH | Am Fallhammer 1 | 40221 Düsseldorf | Germany | T +49 211 17160-0 | F +49 211 17160-420 Amtsgericht Düsseldorf, HRB 47418 | Managing Directors: Michael Stoll, Hans-Joachim Andres info@remex-solutions.de | remex.de