



WE ARE WORKING  
TO SAFEGUARD THE FUTURE.  
ARE YOU WITH US?

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Every year, millions of tons of waste ends up in landfill. Not only is this damaging to the environment, but also, a valuable commodity is lost.

Ad Rem changes that. We're leading the way in ensuring we leave a legacy for future generations. We specialize in the research, design, engineering and construction of equipment for the recycling, mineral and food-processing industries. By making it possible to separate and recycle waste from cars, electronics and household appliances, our technological innovation helps the world to recover more resources.

Ad Rem machines prevent millions of tons of CO<sub>2</sub> from entering the earth's atmosphere every year. We are working to safeguard the future.

## WHO WE ARE

Since 2008, Ad Rem has developed and optimized new ways of separating diverse waste streams and materials.

As a joint venture, we are the result of a meeting of minds. Ad Rem was founded by two family-owned groups: Group Galloo and the Valtech Group. Together we have engineered a range of patented separation processes around one single goal: maximum waste recovery.



Group Galloo is Belgium's largest metals and plastics recycling company, with a long history of developing its own processes. Over 20 years ago, Galloo was the first company in Belgium and one of the first in Europe to look beyond metals and start recycling plastics. Throughout the years, the processes have been adapted to changing circumstances and newly gained experiences. Today, Galloo can boast the world's most unique, innovative and efficient separation processes for metals and plastics alike.

Meanwhile, the Valtech Group is a group of 15 machine-building companies active in or closely related to the recycling industry. The combined team of over 400 employees uses a hands-on, no-nonsense approach with great flexibility to create real added value for our customers. With a strong focus on engineering and automation, Valtech has managed to attract these customers in no fewer than 194 countries worldwide.



Combining the expertise of Galloo with the know-how of Valtech, Ad Rem truly offers a unique and complete approach to all your recycling challenges.



**MISSION**

Providing solutions to improve resource recovery from shredder waste worldwide. Leading through technological innovation.

**VISION**

Reinforcing our position in the global recycling market through technological (r)evolution. Offering long-term, high quality solutions.



MAXIMUM WASTE RECOVERY  
MAXIMUM WASTE RECOVERY

## DESIGN

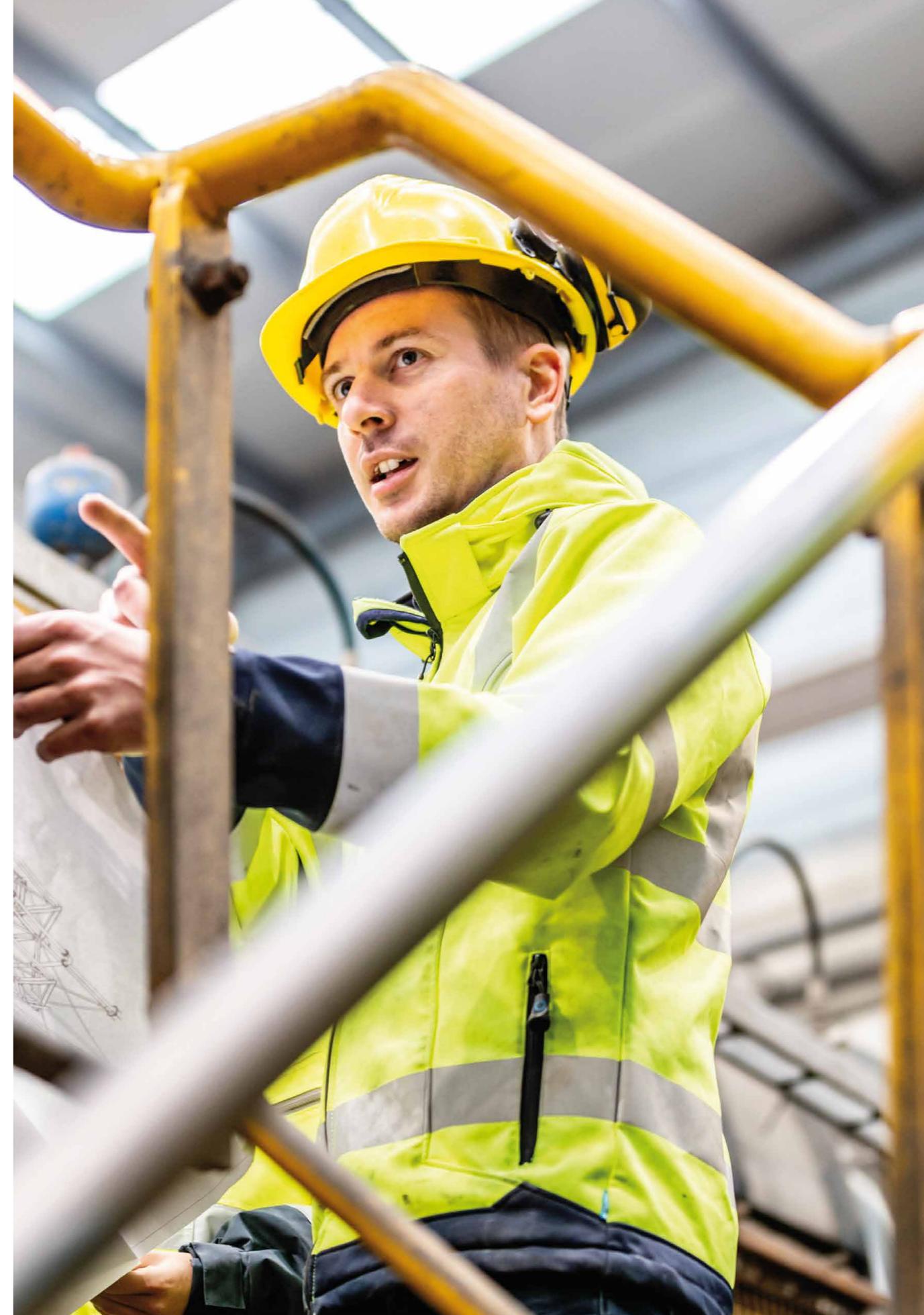
Each Ad Rem separation line is custom-made to the needs of our customer. The approach of our engineers is to find out how to most effectively separate your materials, so that the highest value will be retained from them.



## AUTOMATION

The Ad Rem goal is to deliver turnkey plants that turn waste into profit. Through our integration into the Valtech Group, we can boast a strong focus on programming and automation. This not only ensures the most stable and efficient processes, but also eliminates high processing costs and overhead, thus reinforcing the process profitability.

Our strong focus on advanced programming and automation keeps the process as manageable as can get, eliminating the need for any operator interventions where possible. An extensive monitoring system has been developed in-house to make sure the process remains perfectly stable. Our data logging enables troubleshooting and provides many statistics even months after production date.



# OUR SOLUTIONS OUR SOLUTIONS OUR SOLUTIONS

## INPUT MATERIALS

The Ad Rem pretreatment and separation systems were designed for the following materials:



Automotive Shredder Residue (ASR)  
Shredder Light Fraction (SLF)  
Shredder Heavy Fraction (SHF)



Waste of Electrical and  
Electronic Equipment (WEEE)



Incinerated Bottom Ash (IBA)





Depending on the type of Scavenger, the processing rate of shredder waste ranges from 10 to 50 tons per hour, making it a good fit for shredding equipment ranging from 1000 up to 8000hp.

**PRETREATMENT**

## Scavenger

Originally designed to treat shredder light fraction, the Scavenger is a compact system to prepare any type of shredder residue for further (wet) separation.

Using a combination of different sieving and wind sifting steps, it is possible to precisely separate shredder waste into different sub fractions: a fines fraction, a fuel fraction and a heavy fraction.

The integration of different components in one compact machine has enabled us to completely automate the process, eliminating the need for any operator to manage it. The Scavenger can simply be turned on or off by the touch of a button.



## PRETREATMENT

# Washing and water treatment

Many materials, and especially IBA and ASR, are contaminated with pollutants that destabilize the separation processes.

When that happens, it becomes more difficult to control the medium density, resulting in lower separation yields and the frequent need to replace the medium. The Ad Rem washing unit solves this costly risk by washing away the pollutants from the material before entering the separation processes.

As a member of the Valtech Group, Ad Rem can count on the expertise of sister company Trevi to help design and develop tailor-made water treatment systems for any application. Trevi is one of the market leaders in the field of water treatment processes, having built, among others, the water treatment at Brussels Airport and the Ford factory in Valencia, Spain.



The collaboration between Ad Rem and Trevi ensures we can provide not only a profound washing of the material, but also an efficient removal of the pollutants from the wastewater, all done in an automated closed loop system.





## SINK-FLOAT SYSTEMS

### Heavy media separation

The Ad Rem heavy media separator is the ideal tool to recover all metals from your shredder residues and to achieve the best output qualities. By means of a medium, which is a suspended liquid on a certain density, different materials can be separated from each other. The separation drum is especially designed to avoid decantation of the medium in the material, thus avoiding misplaced items.

The heavy media drum separates materials with a capacity between 10 and 40 tons per hour and treats particle sizes from 4 to 150 mm.

The Ad Rem heavy media separation system has been developed in close cooperation with the Galloo Recycling group and the University of Leuven. Together we have developed and validated a numerical model to simulate the material flows and currents in our separation drum. This was done by using complex computational fluid dynamics. The result is a machine which performs much better than alternatives available on the market. These improvements lead to a significant gain in separation quality which leads to a direct increase in revenue.



## SINK-FLOAT SYSTEMS

# Plastic separation

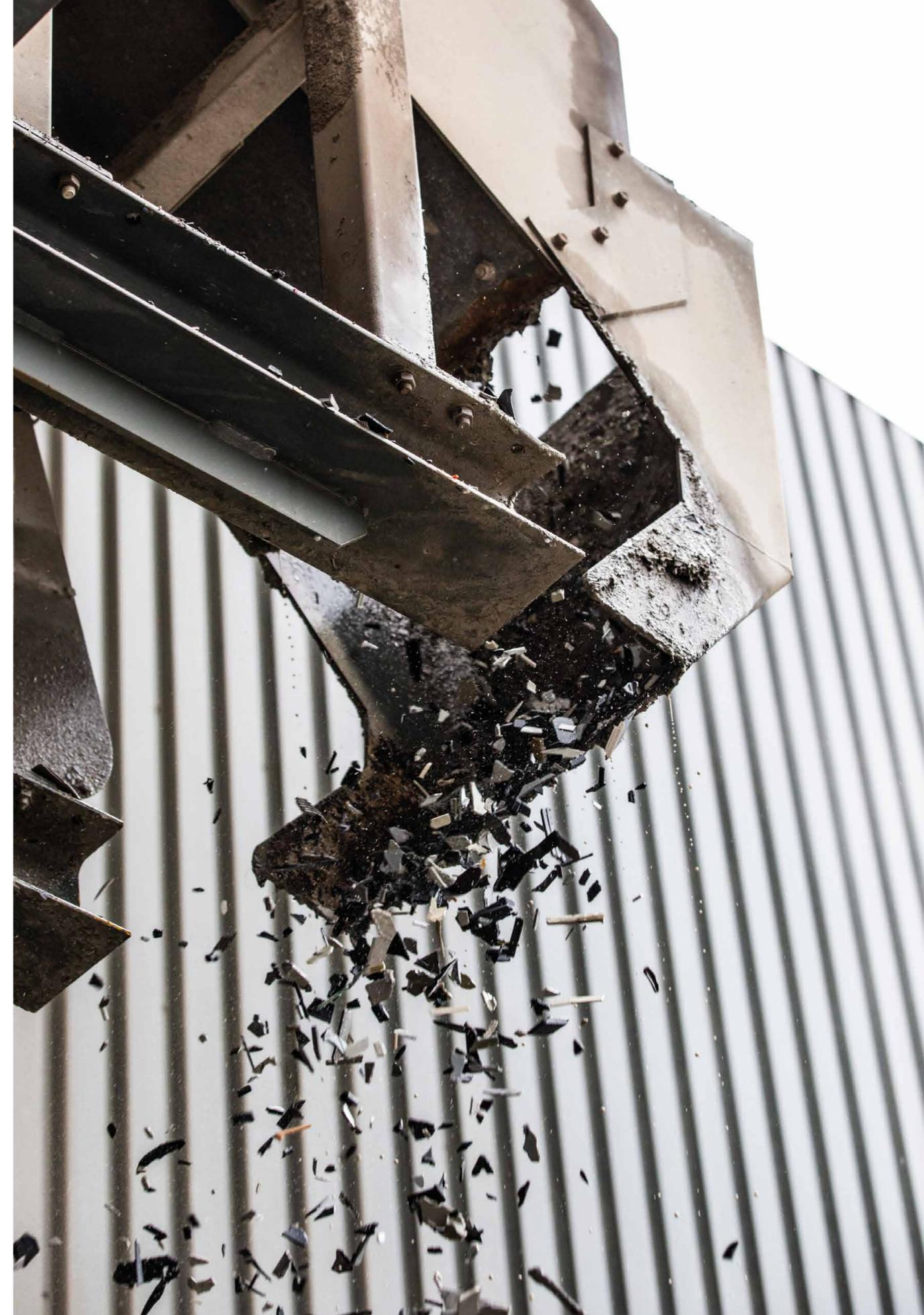
The Ad Rem plastic separation consists of a patented process in which a static separator is used to separate a plastic mix into different fractions. In the separator, materials either float or sink based on their densities relative to the medium.

Using this separator, chlorinated and brominated plastics can be removed from any plastic mix originating from WEEE or ASR. The remaining plastics can then be separated into a recyclable fraction and a non-recyclable fuel fraction, used in waste-to-energy applications. Additional separators can further purify the recyclable plastics until they are ready for electrostatic separation or extrusion.

As opposed to the traditional use of a salt solution, the patented process makes use of a suspended medium. This allows for recovery and re-use of the medium.

The plastic separator has a capacity from 1 up to 8 tons per hour for material ranging from 5 to 120 mm in particle size. The suspended substance is pH-neutral and thus not harmful for the environment. It's also cheap, ensuring an increased profitability for recycling companies worldwide.

Through the Ad Rem plastic separation process, up to 70% of plastics that previously went to export or landfill can now be recovered and recycled, saving millions of tons of CO<sub>2</sub>-output while creating significant value.





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