



**Bollegraaf  
Solutions for C&D  
Waste Processing.**

Sorting your business



**Bollegraaf**  
RECYCLING SOLUTIONS



## Bollegraaf Sorting your business.

**At Bollegraaf, we appreciate the fact that, like any other profit-driven operation, the recycling industry is subject to economic changes. We help you sort your business and make it as profitable as possible.**

Although domestic recycling initiatives continue to gain momentum and consumer demand for recycled goods is increasing, commodity prices for recycled materials tend to fluctuate. In this respect, you are always looking for the best possible return on your investment. Sorting waste is our specialty. Keeping your operation profitable is our ultimate goal. We believe that the key

to a profitable recycling installation is creating the highest possible value for your recyclables. In order to do this, your aim should be to maximize separation quality while keeping your operational costs to a minimum. With a track record of 50+ years in the industry, we can help you achieve just that.

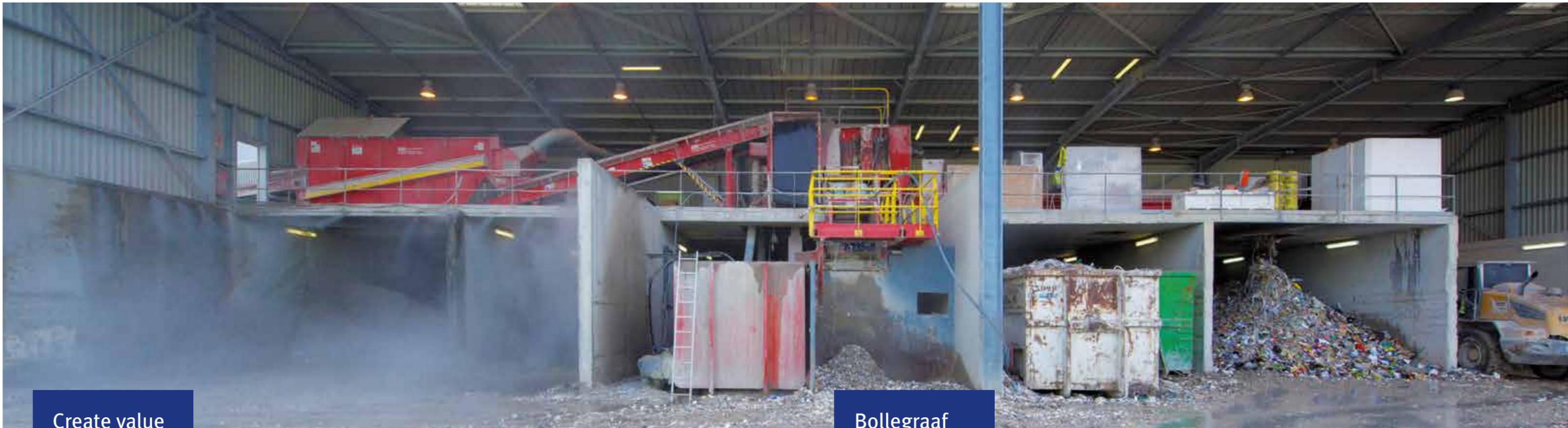
Bollegraaf's extensive experience in the recycling industry makes us the ideal partner for finding the best solution for your business model. Your business inspires our engineers and technicians to build machines, systems, and installations tailored to your needs. It is the very reason we keep innovating and improving our machines.

Our technological advancement offers you maximum flexibility, efficiency, and the highest throughput. Choose Bollegraaf and make the most out of waste.

We invite you to see it with your own eyes. Join us for a visit to one of our reference projects or take a tour around our production facility in the Netherlands. I hope to see you there.

Sincerely,  
Heiman Bollegraaf, CEO

A handwritten signature in blue ink that reads "H.S. Bollegraaf". The signature is stylized and fluid, with the first letters of each word being larger and more prominent.



## Create value from C&D Waste.

Optimizing output in terms of economic value against the lowest possible costs per tonne. This is the short-term goal for every installation that Bollegraaf provides. The long-term goal is to ensure permanently low operating costs and achieve an optimal return on investment.

Increasing tax rates for landfills and growing environmental awareness make recycling C&D waste a viable business opportunity. Bollegraaf provides effective solutions for this market. We tailor our solutions to your requirements by looking at factors such as local fees, labor costs, rules and regulations, and sales opportunities for your output.

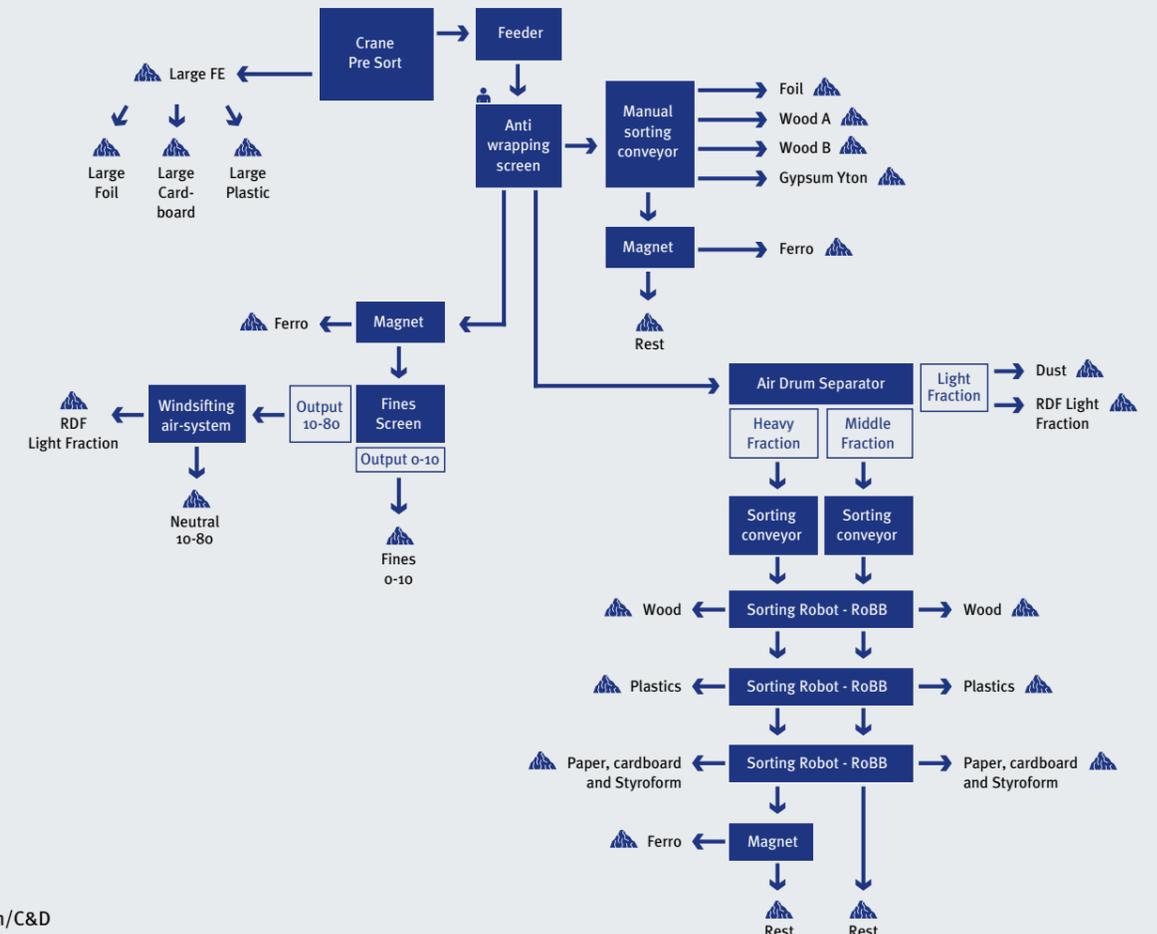
## Bollegraaf C&D Recycling Process.

### Advantages of working with Bollegraaf

With more than 50 years of experience worldwide, Bollegraaf is one of the most knowledgeable suppliers on the planet. We know there is no single specification for the composition of your waste; it can vary per country, per region, or per city. The requirements for the output of the separation system may also vary, depending on the available markets for recycled products. This is why we believe versatility is key. It inspires us to engineer, build and deliver tailor-made solutions that are easy to use, have a low cost of ownership, perform to your specifications, and offer an excellent return on investment.

- **Versatility:** our installations can be easily adjusted to fluctuations in input streams and/or output requirements. Even daily variations in waste streams can be handled by the adjustability/fine-tuning possibilities of most of our machines. This ensures that a Bollegraaf installation will last for many years and remain up-to-date. Even if the market changes, our installations have the ability to change with it.
- **Quality:** we believe in putting quality above all else. That's why we only use name brand components from experienced suppliers. This ensures our installation will provide the durability you require so you get efficient performance every day with as little downtime as possible. We guarantee your installation will be trouble-free for many years to come.
- **Customization:** we always put our customers first. Our worldwide delivery program consists of complete sorting systems for the waste paper industry and plastics recycling, collectors of industrial waste and household waste, municipalities, and companies that produce voluminous waste. We also feature R&D backup for custom-built products so we can always offer our customers a one-stop shopping experience that meets their exact requirements, whatever they may be.
- **Eco-friendly:** we are not just active in an industry that's rapidly going green. At Bollegraaf we are also very aware of our own corporate responsibilities towards the environment. From our water-based green paint to investments in the latest innovations for reducing energy and oil consumption to the use of recycled materials for all our communication and promotional activities, we are making a conscious effort to help protect our planet.
- **Experience:** 50+ years of worldwide experience in all areas of recycling. We know the local market characteristics and requirements as well as local laws and regulations, and we anticipate market changes in collaboration with our clients. We know recycling!

Example lay-out



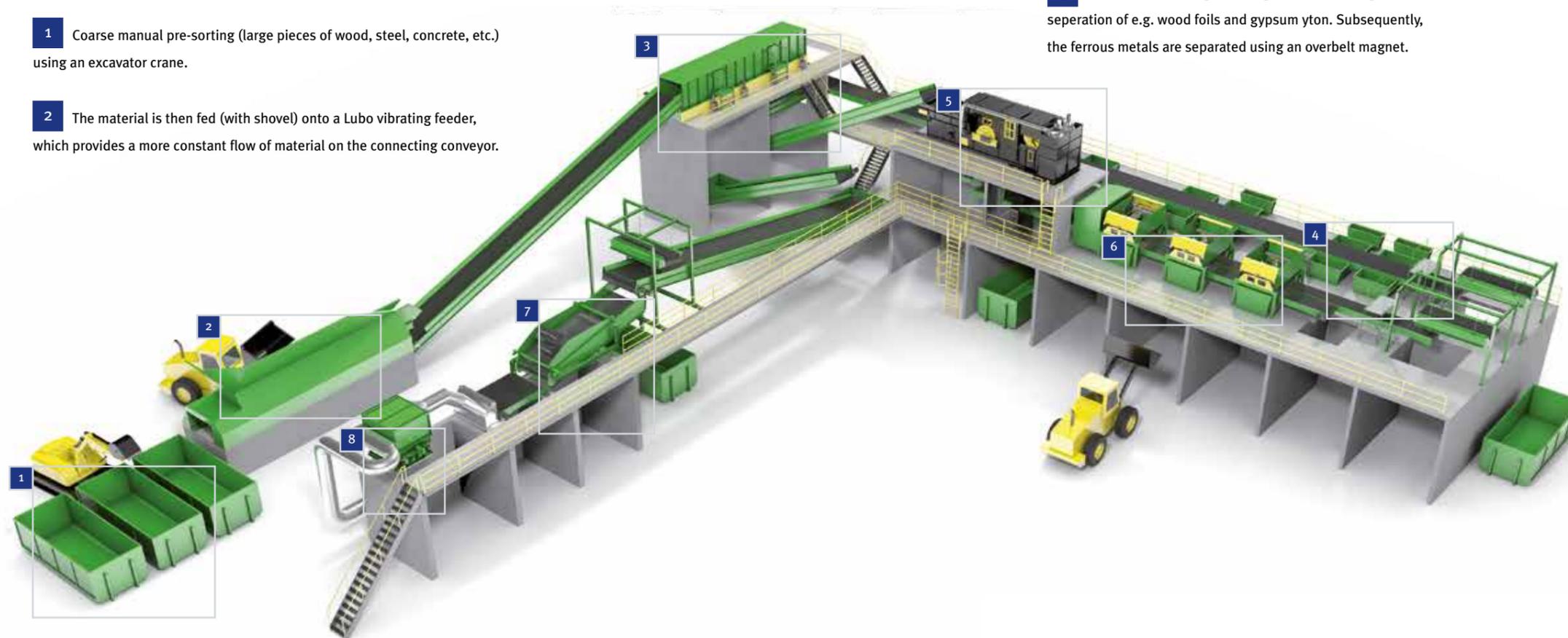
[www.bollegraaf.com/C&D](http://www.bollegraaf.com/C&D)

## Example lay-out of a C&D installation

The purpose of the installation is to process the input into valuable materials such as wood, RDF, paper, and ferrous and non-ferrous metals and to minimize the waste fraction that is sent to landfills.

**1** Coarse manual pre-sorting (large pieces of wood, steel, concrete, etc.) using an excavator crane.

**2** The material is then fed (with shovel) onto a Lubo vibrating feeder, which provides a more constant flow of material on the connecting conveyor.



**3** An AWS screen separates materials into 3 fractions: fine, medium, and coarse.

**4** The coarse fraction goes along the hand-sorting unit for separation of e.g. wood foils and gypsum yton. Subsequently, the ferrous metals are separated using an overbelt magnet.

**5** The medium fraction goes to the Lubo trommel separator where the heavy materials (mainly rock), medium heavy materials (mainly wood), and the light materials (mainly plastic foil, styrofoam, etc.) are separated.

The alternative to this is a water bath separator. The advantage is that a higher degree of purity can be achieved compared to the air trommel separator.

**6** The medium heavy and heavy materials (the lights go directly into the lights container) then continue to the RoBB to separate e.g. wood, plastics, paper, cardboard and Styrofoam. Finally, the ferrous metals are separated at the end of the heavy material conveyor using an overbelt magnet from where they can be further proceeded to e.g. RDF.

**7** The fine fraction (after the ferrous metals are separated using an overbelt magnet) goes up a Lubo fine screen so the fine sand (construction sand) can be removed.

**8** Finally, the remaining small light fractions (styrofoam, wood, foils, etc.) are separated into an inert fraction and RDF, using the Lubo Windshifter.

Dedicated technology for strong solutions



**Bollegraaf**  
RECYCLING MACHINERY



**Lubo Systems**  
SCREENING & RECYCLING

Bollegraaf Recycling Solutions is the trading name of Bollegraaf Recycling Machinery bv and Lubo Systems bv.

See also [www.bollegraaf.com/used](http://www.bollegraaf.com/used) for our daily updates on in-stock used machinery

### Waste To Energy

Producing alternative fuels from waste is becoming increasingly profitable. The statutory requirements for the disposal and processing of untreated waste are becoming increasingly strict, which is leading to mounting operational costs. Together with constantly rising energy prices, many MRFs value the production of e.g. high-calorie RDF (Refuse Derived Fuel) as an attractive option.



#### Lubo Vibrating Feeder

A vibration feeder is a heavy-duty bunker with a vibrating gutter. The main function is to feed the installation gradually. The transport speed of the feeder can be altered by changing the vibration frequency of the drive (the lighter materials move forward slower than the relatively heavy materials).



#### Lubo Anti-Wrapping StarScreen®

Our patented StarScreen® technology has been developed for efficient screening of different-size fractions from a large variety of input, e.g.: C&D, OCC, ONP, and commingled. We also offer a unique anti-wrapping StarScreen® that combines the advantages of the StarScreen® and a drum separator in one model.



#### Lubo Trommel Separator

A very compact and versatile trommel separator. This unit separates a variety of solids (ultralights, lights, middle-heavies, and heavies) from your wastestream by using a combination of air currents and gravity. It can be used in a fixed position or as a mobile solution (also available on a rental basis).



#### Lubo Water Bath Separator

The Lubo water bath separator consists of a water-filled tank that features an integrated StarScreen® to separate floating materials and a conveyor to discharge non-floating input.



#### Bollegraaf RoBB QC Sorting Robot

RoBB can drastically reduce your OPEX in the quality control phase of your sorting line. RoBB delivers optimum purity and separation quality on various materials (various types of plastics, paper, and other materials), resulting in a significantly higher value for your output.



#### Lubo Windshifter

The unit is used to separate the light materials at the end of a screen. To separate the materials, the shifter is fitted with an adjustable blow nozzle at the end of the screen and an extraction hood at the end of the speed up conveyor added to the screen.

Bollegraaf Recycling Solutions is the trading name of Bollegraaf Recycling Machinery bv and Lubo Systems bv.

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