Avermann

Automated sorting – welcome to the future!

The ZenRobotics recycler is designed uncommitted and can be fitted into each system. Ideally it is installed like in the described layout. Besides, the software can be updated at all times and therefore represents a future-proof investment.

It consists of industrial standard components and by means of mechanical learning processes it is enabled to differentiate between valuable resources and waste. The emphasis is put on the handling of building and demolition waste and the performance is constantly enhanced.

The recognition of the materials is carried out through the incoming data of its many sensors. Among others, these are cameras for the visible spectral range, 3 D laser scanners, key sensors and near-infrared technology (NIR).

The interaction of the sensor data allows a high-precision analysis of your waste stream.

Unique in this way!

What would be the amortization rate of the automatic sorting line in your case?

We look forward to analyzing your requirement. Simply contact our field staff by telephone number +49 5405 505-0 and make your personal appointment.

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STOP MANUAL SORTING – NOW!

We proudly present the first robot-based sorting system of the world

Revolutionary and powerful!

Robots controlled by artificial intelligence
Minimum power consumption
2 seconds cycle time

Your advantages:

- ✔ higher revenues through better resource recycling
- ✔ lower sorting costs through automatic sorting
- ✔ low energy consumption at high precision performance

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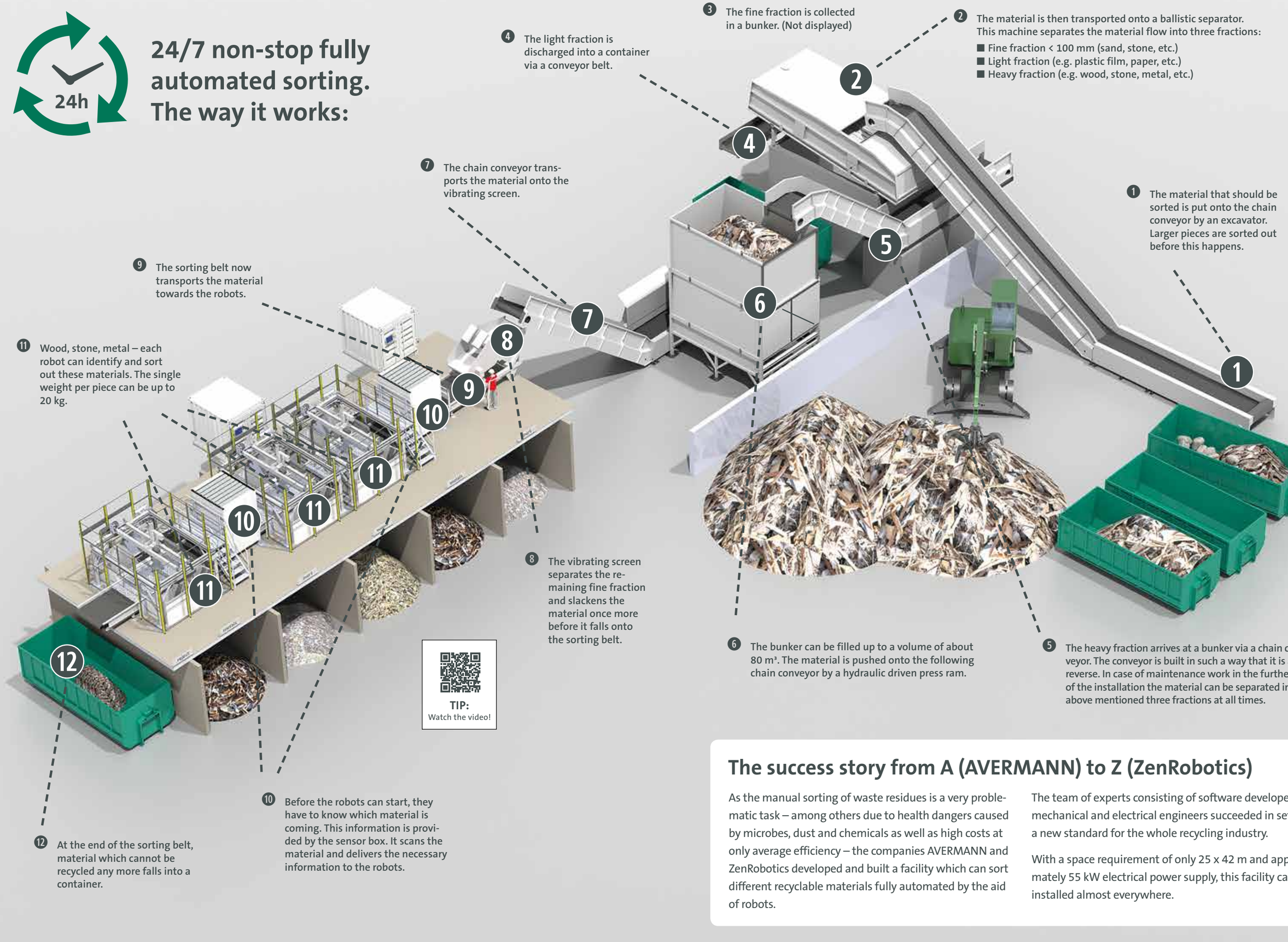
24/7 non-stop fully automated sorting. The way it works:



1 The material that should be sorted is put onto the chain conveyor by an excavator. Larger pieces are sorted out before this happens.

2 The material is then transported onto a ballistic separator. This machine separates the material flow into three fractions:
- Fine fraction < 100 mm (sand, stone, etc.)
- Light fraction (e.g. plastic film, paper, etc.)
- Heavy fraction (e.g. wood, stone, metal, etc.)

3 The fine fraction is collected in a bunker. (Not displayed)

4 The light fraction is discharged into a container via a conveyor belt.

5 The heavy fraction arrives at a bunker via a chain conveyor. The conveyor is built in such a way that it is able to reverse. In case of maintenance work in the further course of the installation the material can be separated into the above mentioned three fractions at all times.

6 The bunker can be filled up to a volume of about 80 m³. The material is pushed onto the following chain conveyor by a hydraulic driven press ram.

7 The chain conveyor transports the material onto the vibrating screen.

8 The vibrating screen separates the remaining fine fraction and slackens the material once more before it falls onto the sorting belt.

9 The sorting belt now transports the material towards the robots.

10 Before the robots can start, they have to know which material is coming. This information is provided by the sensor box. It scans the material and delivers the necessary information to the robots.

11 Wood, stone, metal – each robot can identify and sort out these materials. The single weight per piece can be up to 20 kg.

12 At the end of the sorting belt, material which cannot be recycled any more falls into a container.

TIP:
Watch the video!

The success story from A (AVERMANN) to Z (ZenRobotics)

As the manual sorting of waste residues is a very problematic task – among others due to health dangers caused by microbes, dust and chemicals as well as high costs at only average efficiency – the companies AVERMANN and ZenRobotics developed and built a facility which can sort different recyclable materials fully automated by the aid of robots.

The team of experts consisting of software developers, mechanical and electrical engineers succeeded in setting a new standard for the whole recycling industry.

With a space requirement of only 25 x 42 m and approximately 55 kW electrical power supply, this facility can be installed almost everywhere.