ZENROBOTICS®
A TEREX BRAND

Revolutionise Your Scrap Metal Sorting

AI-Powered Precision for
Maximum Profit and Purity

Unlock the True Value of Your Scrap Metal

The global demand for high-quality recycled metals is increasing, yet the scrap industry faces significant challenges in achieving the purity and efficiency required. Inefficient manual sorting, hazardous working conditions and critically, copper contamination in ferrous streams – particularly from End-of-Life Vehicles (ELVs) and "meatballs" – hinder profitability and sustainability. ZenRobotics offers the advanced, AI-driven robotic sorting technology to overcome these hurdles, transforming your operations and maximising your returns.

The Challenge

Copper Contamination & Inefficient Sorting

Scrap metal, especially from shredded ELVs or Electrical Appliance, often contains "meatballs" (electric motors and windings) and wires – major sources of copper contamination. Even small amounts of copper can significantly degrade the quality of steel, limiting its reusability in high-value applications. Traditional manual sorting is not only slow and inefficient, leading to lower purity outputs, but it also exposes workers to hazardous materials and environments. This results in lost revenue, higher operational costs, and an inability to meet the increasing demand for cleaner ferrous streams.

The Smart Solution

The ZenRobotics Heavy Picker

Enter the ZenRobotics Heavy Picker – your answer to these complex challenges. Engineered for the demanding world of scrap metal, our AI-powered robots deliver unparalleled precision in sorting ferrous and non-ferrous metals. The Heavy Picker recovers high-value fractions, eliminating the need for inefficient and hazardous manual processes, and setting a new standard for purity in recycled materials.

Unparalleled Precision & Purity

The ZenRobotics Heavy Picker is equipped with a high IQ Artificial Intelligence known as **ZenBrAIn**, which offers unparalleled Accuracy in identifying ferrous and non-ferrous metals such as copper, iron, aluminium, zinc, brass, stainless steel, and many more from your waste stream. This advanced AI allows the Heavy Picker to specifically target and recover high-value materials like ELV meatballs and wires. With ZenRobotics, you can achieve a copper content of less than 0.1% in your clean ferrous metal stream, and overall sorted fraction purity of up to 99%.

Maximise Throughput, Minimise Downtime

Boost your operational capacity significantly. With a single belt, with a width up to 1.8m (5' 11") for best sorting results, compared to narrow manually sorted belts, you can achieve up to 100TPH capacity. On a split dual picking belt throughput can reach >100TPH. The Heavy Picker operates 24/7/365, ensuring continuous high throughput sorting with a simple, automated process. Our robots are extremely robust and capable of picking large and heavy objects, handling items up to 40KG (88 LBS). This combination of speed, capacity, and continuous operation ensures maximum efficiency and minimal downtime.

SCAN OR CLICK TO VIEW VIDEO

2300
picks per hour per arm

FREE
copper within industry standard in ferrous end-product

Up to
FOUR
chutes per arm (option of 6)

EASY
to train robot new fractions

24/7
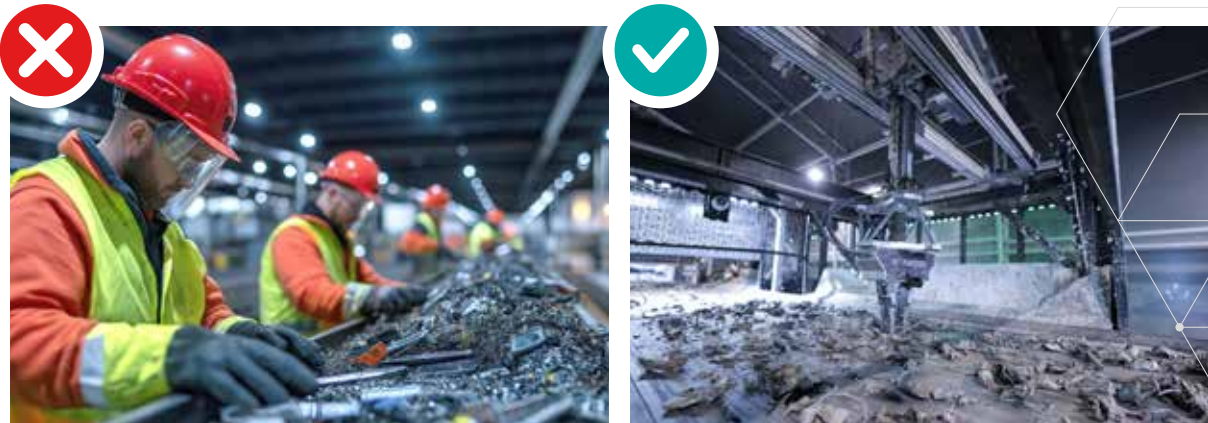Available 24/7 and 365 day per year

Up to
>99%
purity possible

Safety, Versatility & Adaptability

Promote Safer Working Conditions

ZenRobotics **Safe Sorting** robots are professionals at working in hazardous environments such as scrap metal sorting. By entrusting dangerous and repetitive tasks to our machines, you enhance your operational efficiency whilst promoting safer working conditions, minimising the risks associated with manual sorting. This also addresses the challenge of finding human labour for these demanding roles.

ZenBrAIn

Adaptable & Intelligent Sorting

The ZenRobotics Heavy Picker offers unparalleled versatility. Our robots can sort by alloy, shape, and colour, precisely identifying and separating various materials. AI 3D object recognition capability of ZenRobotics is better than a human's capability of recognising objects from a moving belt.

Our robots are consistent, reliable and predictable Thanks to ZenBrAIn, our robots and AI can quickly adapt to changes in sorting tasks and are easy to train for new fractions.

Working with the ZenRobotics heavy picker allows us to respond rapidly to changes in the quantities and properties of the input material. We are able to train the robots to learn and handle different types of materials which makes the system useful and very profitable for us.
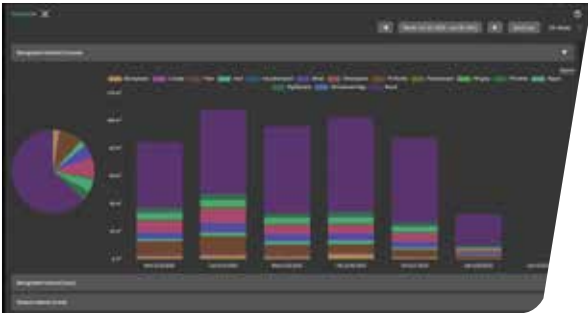
Carl F, Sweden

Monitoring Your Operations

Monitor and Control Your Profit

With ZenRobotics, you gain insights into your operations, allowing you to monitor and control your profitability. Our advanced analytics provide:

- ✔ Easy access to robot line performance data.
- ✔ Secure online analysis of the incoming scrap metal stream and sorting results.
- ✔ Key performance information for controlling and optimizing your production.
- ✔ Access to volume/weight and object value data.
- ✔ Precise control over the robotic arm to pick your desired objects.
- ✔ Instant access online anywhere in the world on your PC, tablet or smartphone.

Picks per hour

Recognised Material Volume in a week

Installation Options

How to get started...

1 Standalone

Order a fully automated and independent waste sorting station. A turnkey solution, this is the fastest and easiest way to get all the benefits of scrap metal sorting at a low operational cost. The Standalone Solution is independent from your other operations – meaning it can run unmanned 24/7. It's flexible, easy to operate, and quickly ready for use.

2 Retrofitted

Integrate Waste Sorting Robots into your existing facility. This customised solution seamlessly integrates modern waste sorting robots into existing facilities and their sorting lines. Retrofit a ZenRobotics Heavy Picker robot to your current processes to increase efficiency and reduce or replace manual processes. Our robots fit right into demanding surroundings, increasing your sorting capacity and improving employee safety.

3 Greenfield

Design a new large-scale facility around smart robotics. Investing in a fully robotized industrial scale recycling facility takes waste operations to a new era. You can dramatically increase your sorting capacity while skipping the rigid processes and inefficiencies of conventional facility setups altogether. ZenRobotics is your go-to partner in designing and building your processes around AI-based robotic waste sorting technologies.

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Your Partner in Scrap Metal Innovation

ZenRobotics is committed to your success beyond just equipment. We ensure a seamless transition and continuous support to maximize your return on investment and profits:

Why choose us?

- ✓ Includes inhouse system engineering
- ✓ Includes install & start-up
- ✓ Includes operational training
- ✓ Includes maintenance training
- ✓ Includes spare and wear parts package
- ✓ Minimal down-time during install
- ✓ Maximum return on investment
- ✓ Maximize your profits
- ✓ Clean ferrous stream <0.1% CU

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Ready to Revolutionise Your Operations?

Transform your scrap metal sorting with the power of AI and robotics. Contact us today for a tailored assessment of your sorting needs and discover how ZenRobotics can unlock new levels of efficiency, purity, and profitability for your business.

Intelligent Sorting for a **Sustainable** Future.

ZenRobotics, Perintötie 8 C 1, 01510 VANTAA, Finland

Tel: +358 50 4363 803   **Email**: sales@zenrobotics.com / zenrobotics@terex.com

terex.com/zenrobotics