

CASE STUDY



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SKAPA RECYCLING GMBH - SORTING BEVERAGE CANS AND NON-FERROUS METALS

REDWAVE

CUSTOMER

The Skapa Recycling GmbH has been a key player in the waste management sector for over a decade, recycling up to 20,000 tonnes of aluminium-bearing materials every year. Since its inception, the company has stood out for its innovative approach and was awarded the Innovation Prize in 2019, one of only around 1,000 companies to receive this accolade. With a strong focus on the traditional scrap metal business, SKAPA Recycling is now planning the construction of specialised processing plants for UBCs - used beverage cans - to meet market demands.



SITUATION AND SOLUTION

Of the 12,000 tonnes of UBCs (Used Beverage Cans) on the Austrian market, only around 6,000 tonnes are officially recycled, often into lower-grade alloys. Since 2011, SKAPA has been actively working to change this. In a modern processing plant, used beverage cans are collected and processed in eastern Austria. The final product, cleaned and briquetted UBCs, is palletised and delivered to specialised can alloy manufacturers across Europe. SKAPA's goal is for every can to find its way into recycling – from can to can.



A particular challenge was the heavy metal fraction, for which manual sorting was impractical due to the large quantities involved. Anton Skalnik, visionary owner and Managing Director of Skapa Recycling GmbH, recognised early on the need for an innovative solution, which he found in 2023 with the REDWAVE XRF sorting machine.



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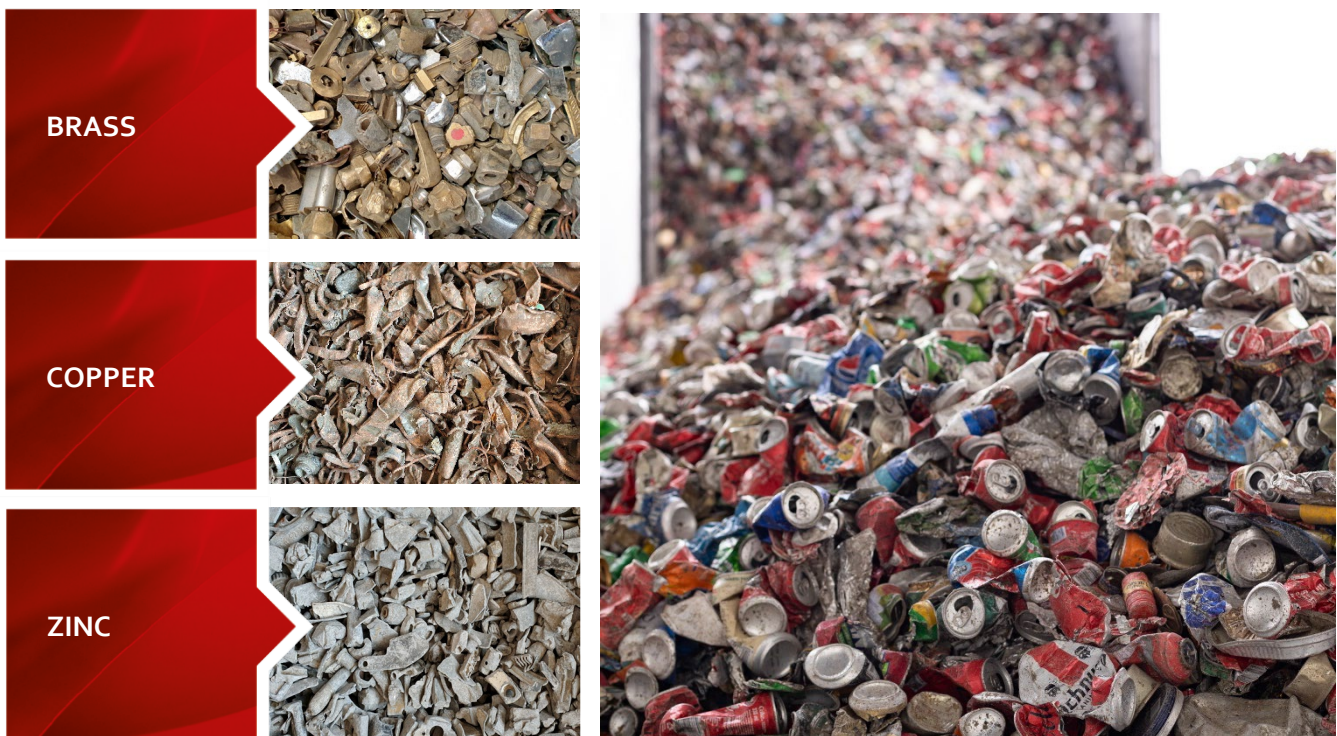
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This state-of-the-art technology not only separates different heavy metals such as copper, brass, and zinc, but also sorts the aluminium cans according to their chemical composition. This enables precise and efficient processing, significantly improving the recycling process and maximising material recovery. "The cans we receive are first shredded, then divided into different fractions and thoroughly cleaned of contaminants," explains Skalnik.

HIGHLIGHTS:

„The integration of the REDWAVE XRF sorting machine into our operations represents a significant step forward. With this innovative technology, we can greatly enhance the efficiency and precision of our recycling process, thereby significantly increasing recycling rates," says Managing Director Skalnik.



„The modular design of the REDWAVE XRF sorting machine allows operations to start with a narrower sorting width for lower capacities. At a later stage, this width can be expanded with minimal effort to handle higher throughputs.

"The machine has been running for almost six months now, and the results are truly impressive," Skalnik remarks enthusiastically. "Fine-tuning has been carried out to optimise copper and brass recovery, and the system is expected to pay for itself in two to three years."

It is also noteworthy that Mr. Skalnik powers a large portion of his machinery with electricity generated from his photovoltaic system, significantly reducing the plant's carbon footprint.



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TECHNICAL DATA

MACHINE TYPE	REDWAVE 450 XRF-SDD/C 2W
INPUT MATERIAL	Various non-ferrous metals from used beverage cans (UBCs), sorting copper, brass, zinc, stainless steel, aluminium, and more.
CAPACITY	Depending on the sorting step: 0.4-0.8 t/h
SENSOR SYSTEM	Combination of X-ray fluorescence (XRF) and camera (C)
GRAIN SIZE	8-30 mm, 30-70 mm 1/3"-1 1/5", 1 1/5"-2 3/4"
WORKING WIDTH	450 mm / 18", upgradeable



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MOTIVATION AND VISION FOR THE FUTURE

Aluminium is an extraordinary material: it can be reused almost indefinitely without losing its quality. Recycling an aluminium beverage can saves vast amounts of resources and energy compared to producing new cans, as it requires only about five percent of the energy needed for production from bauxite. However, of the 12,000 tonnes of used aluminium beverage cans (UBCs) on the Austrian market, only about 6,000 tonnes are officially recycled, and these are often processed into lower-quality alloys.



Driven by a strong environmental commitment and the goal of increasing value creation within Austria, Skapa decided to integrate the REDWAVE XRF sorting machine. Despite initial scepticism, the company took the leap, and today the plant processes up to 15,000 tonnes per year, with plans to increase this capacity to 20,000 tonnes.

"Our aim was to reduce the production of finished goods and instead process semi-finished products containing valuable materials. We export worldwide, from Saudi Arabia to Korea to Malaysia," Skalnik explains.



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A SUCCESS STORY OF PROGRESS

The partnership between REDWAVE and Skapa Recycling GmbH demonstrates how advanced sorting technology can revolutionise aluminium recycling. "Our collaboration with REDWAVE and the use of the REDWAVE XRF sorting machine has elevated aluminium recycling to a new level," says Skalnik.

The flexibility and quality of the machine, combined with Skapa's own innovative spirit, have set a milestone in aluminium recycling. With the upcoming introduction of the deposit system and the continuous improvement of recycling processes, Skapa is well-prepared for the challenges ahead. "We are ready for the future and will continue to do everything we can to increase recycling rates and optimise our processes," Skalnik concludes.



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“ *With the innovative REDWAVE technology, many new possibilities for sorting all types of non-ferrous metals will arise in the future,*”
says Anton Skalnik, Managing Director of Skapa Recycling GmbH, proudly referring to his "Ferrari" of sorting machines.



RECYCLING & SORTING SOLUTIONS



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