

CASE STUDY

LOACKER RECYCLING GMBH
PAPER SORTING
ADAPTING THE EXISTING PLANT



REDWAVE



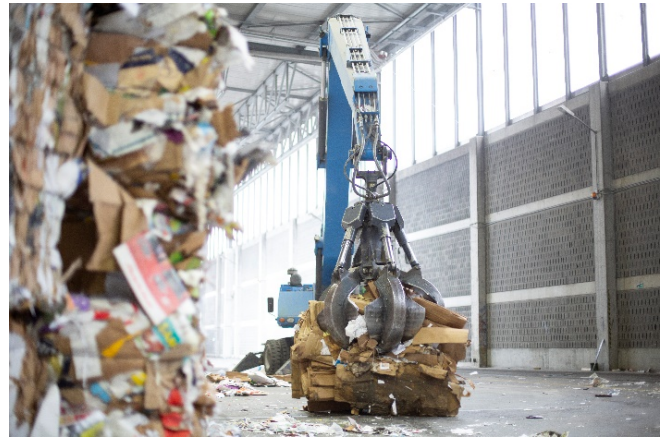
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REDWAVE®

CUSTOMER

Loacker Recycling GmbH has been around since 1876 and is now an internationally active family business operating in the waste disposal and recycling sector, based in Götzis, Vorarlberg. With 40 operating facilities and around 1300 employees in 7 countries, the Loacker Recycling Group is right at the top of the European waste management industry. This family-owned company is dedicated to the collection, sorting and processing of recyclable materials.

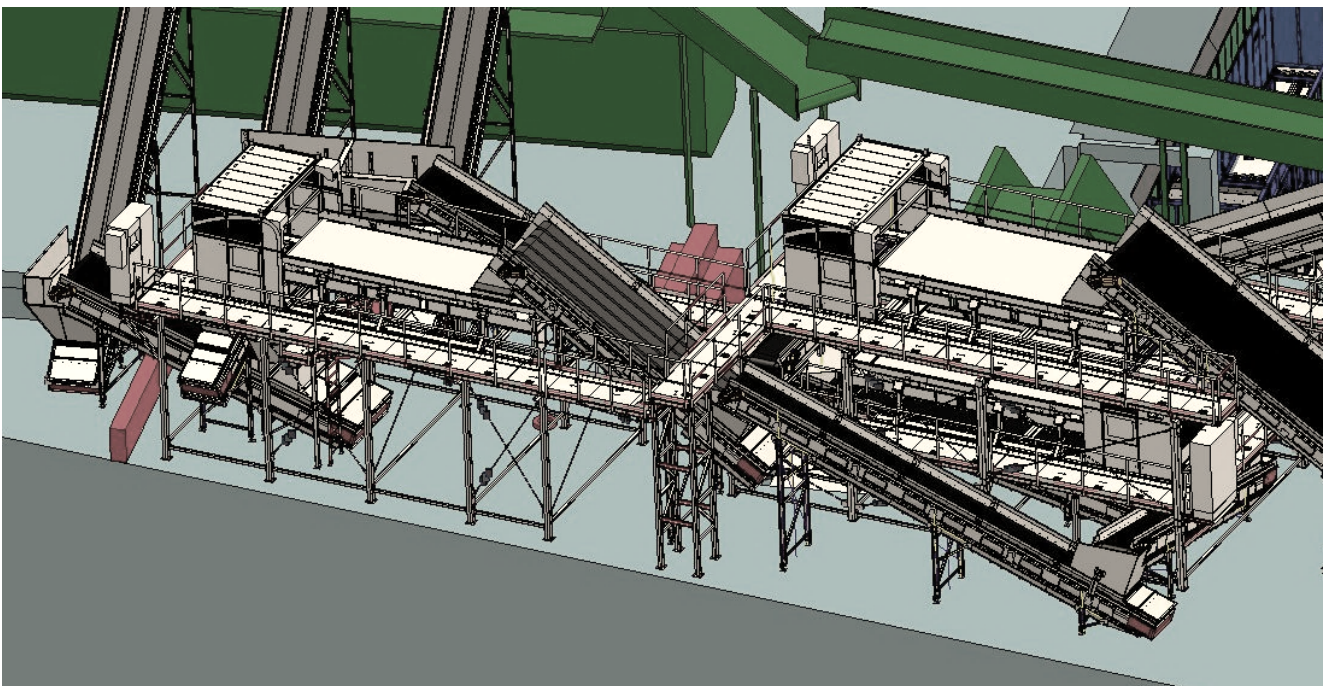


SITUATION

A modification of the plant was needed to increase the efficiency of the sorting process.

The aim was to improve the sorting depth and purity of the end products, whilst also having the possibility of adapting to a changing paper market as quickly as possible and react by providing suitable sorting methods.

The upgrade of the sorting process had to be carried out in a record time of just six weeks, from the dismantling of the old plant to the acceptance of the new one.



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SOLUTION

The latest generation of REDWAVE sorting machines, the REDWAVE 2i, constitutes the technological centrepiece of the system. Three REDWAVE 2i units separate high-quality de-inking paper from the stream of wastepaper, guaranteeing a high-quality end product.



The processing plant, tailored to customer requirements, was designed, built, and commissioned by our partner company Entsorgungstechnik Bavaria following intensive planning and consulting sessions. By using a specially developed intermediate bunker, any fluctuations in the material input can be balanced out, keeping the material flow constant. A new BHS cardboard packaging screen and a PaperSpike were installed to remove a large part of the cardboard packaging from the material stream in advance. After unloading, the material is screened. The fine fraction thus obtained already forms one of the finished products and is stored in dedicated bunkers.

After pre-treatment, de-inking material is extracted from the wastepaper stream. This is carried out by two REDWAVE 2i sorting machines, equipped with near-infrared sensors combined with RGB cameras, each with a width of 2800 mm. The sorting machines, which are set up in series, offer the additional advantage that the material is agitated.

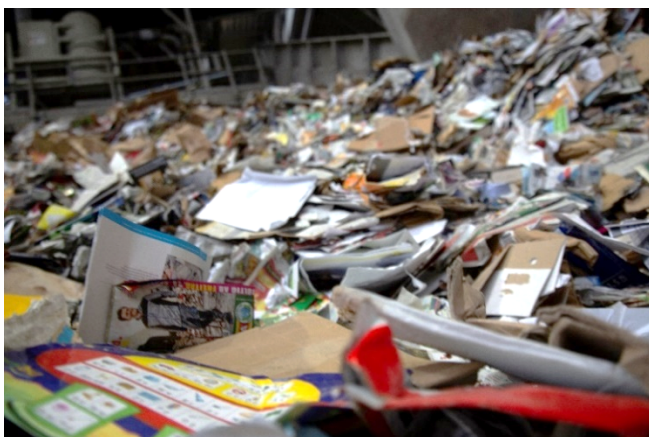
The material is then scanned by a third, slightly narrower REDWAVE 2i in order to recover high-quality de-inking material from the cardboard packaging stream. This sorting machine is used for recovery and ensures the highest possible yield of recycled material.



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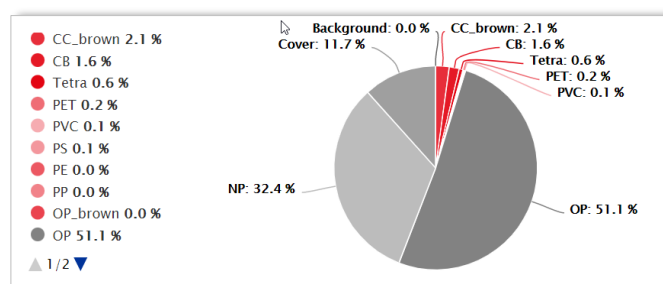
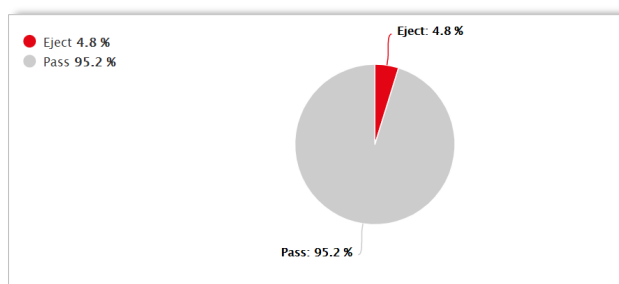
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The plant upgrade was completed in a very short period of time. The upgrade started in July 2021. By September 2021, the plant was back in operation.

The main advantages of the new plant are the efficiency with which wastepaper, mixed paper and cardboard are sorted and the high quality of the products obtained.



Overall material mix in the input or, right, according to classes / red => output / grey => throughput

Finally, the quality of the sorted material is checked by manual sorting and stored for further transport in designated bunks, pressed into bales or loaded directly onto trucks or the railway.

The upgrade has allowed 50% of personnel costs in the manual sorting area to be optimised.



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REDWAVE *mate*, the *smart companion* for sorting systems, offers the maximum level of control. All REDWAVE 2i sorting machines are equipped with this type of digital support, based on machine learning technology.

REDWAVE *mate* is the first system to measure quality and to collect and evaluate information during the production process. Additionally, REDWAVE *mate* ensures an optimum plant and sorting operation. Both plant availability and sorting efficiency are increased, as well as maximizing yield and purity. The communication between the sorting machines takes place in real time. Cross-platform monitoring makes the flow of information both simple and manageable.



Andreas Heidegger, Plant Manager Wastepaper Recycling, Loacker



Gerald Engler (Member of the Executive Board at Loacker) and Nadine Loacker (Marketing) with Tobias Zirsch (left, REDWAVE Sales Engineer)

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With the positive experiences we have already had with our existing REDWAVE XRF sorting system in the metal sector and a professional appearance, REDWAVE also impressed us in the field of paper sorting with their 2i sorting machine.

Gerald Engler, Member of the Executive Board at Loacker

