

# CASE STUDY

**MARIUS PEDERSEN A.S.**  
PLASTIC SORTING PLANT FOR 1,5 T/H



**REDWAVE®**



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*The REDWAVE device is an important part and the final stage of our comprehensive sorting line for plastic waste from municipal collection, with an emphasis on the quantity and quality of sorted raw material - PET bottles. Thanks to the modification of the original manual sorting line, we were able to optimize the sorting process, reduce operating costs and increase the capacity. REDWAVE met the required parameters and expectations. After this positive experience our company chose REDWAVE again, also for another sorting line in Zvolen.*

*Oliver Šujan, CEO, Marius Pedersen, a.s.*

## CUSTOMER

The Marius Pedersen company has existed for more than 95 years. Marius Pedersen, the founder of the company, was an innovative building contractor who initially received the municipal streets with the self-built street drum. Over time, Marius developed and built more road machines, and the construction business grew steadily with more and new activities, including building new roads, sewerage, and other traditional construction jobs.

In 1970 the company had more than 200 employees and its activities were expanded to include waste disposal services. First with the construction and operation of landfills, later with the collection and transport of waste and the sorting of waste for recycling. With Marius' active and strong entrepreneurial spirit and his thoughts on recycling instead of throwing away, the basic attitudes and values grew significantly, which are the characteristics of the group today.



## SITUATION AND SOLUTION

In the west of Slovakia, at the Sulekovo location, the company operates a sorting system for plastics from households, among other things. The original sorting system consisted of a chain conveyor on which the plastics were manually loaded. In a further step, the material flow was transported to a hand-held reading cabin using appropriate conveyor technology. The materials were sorted by hand at several reading points according to PET clear, PET blue, PET green, PET mix and HDPE.

In 2014, Marius Pedersen decided to make a new investment with the available budget. The aim was to increase the system capacity to 1.5 t / h with the help of an automated sorting process and to economically modernize the whole system.

The jointly defined sorting process made it possible to continue using the existing system technology with minor modifications within the sorting cabin.

The main steps in the system concept were the ferrous metal separation with the help of an overbend magnet, a ballistic separator for separating the material flow into the 2D, 3D and sieve fractions as well as the REDWAVE sorting machine.





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The heart of the system is determined by the REDWAVE 2400 NIR in a divided 3-way version. In the first step, PET blue and PET green are separated from the 3D material flow. The remaining material flow is then transferred to the second half of the REDWAVE sorting machine in order to sort PET transparent and PET mix in the second step. With this process configuration, the tasks of 2 sorting machines can be combined in one sorting machine and a total of 6 material flows can be generated.

This optimized process made it possible to meet the goals of the investment measures.

Both in terms of the quality of the sorting results and in terms of system efficiency, the expansion of the system and the use of the REDWAVE sorting machine improved the economic efficiency of the entire sorting system and increased the sorting depth.

In addition, the plant was expanded without a significant plant stop of the existing plant components in order not to influence daily business.

After system planning, machine delivery, mechanical and electrical assembly and commissioning, REDWAVE was able to successfully commission another system in the area of plastic sorting in January 2015.



## TECHNICAL DATA

TYPE OF MACHINE	REDWAVE 2400 NIR 3W
INPUT MATERIAL	Plastic packaging from a separate collection
INPUT CAPACITY PLANT	1,5 tonnes per hour
SENSOR SYSTEM	NIR incl. Colour Sensor
GRAIN SIZE	0 - 300 mm
WORKING WIDTH	2400 mm

