

CIRCATHON 2025

Dogoše Circular Construction Center

Our Team



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Dogoše Circular Construction Center (our vision)



Boost of the Waste Plant with the introduction of:

- (1) Conveyor belt for primary screening of Waste COST: 10,000€ *
- (1) RGB Optical Cameras on top of the Conveyor belt for in-line (real time) image analysis.COST: each cameras 1.500€ (x 4)
- (1) Dogoše Plant Softwate Manager (DCWP ®)by KROG group.COST OF DEVELOPING (12 months): 50.000€
- (1) New Slovenian National Online Marketplace for recycled materials (KROG marketplace ®) COST OF DEVELOPING (24 months): 40.000€

The time-line

2 years

Conveyor belt + RGB cameras (6 months)

Waste Images Database (3 months)

Machine Learning Training (3 months)

Software testing (6 months)

PILOT PLANT

KROG Marketplace

RGB waste recognition

For this classification, the model is trained with over 200 images for each class:

Concrete, Bricks and ceramics, Wood, Plastics, Glass, Metals.

*Images are taken from different angles and lighting conditions.

Then for each recognized material, the AI draws a virtual outline around it in the image to isolate it from the background.

- We then quantify the material volume from the images.
- Volume is calculated by combining the information from the depth sensor with the 2D area (outline of the material).
- This data is then used to automatically sort materials, track recycling amounts, or flag hazardous items—all without manual measurement.



RGB Camera Machine Learning classification

Volume and Type

Conveyor belt



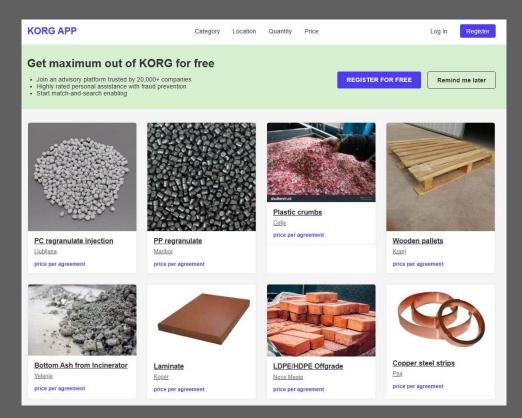
Real-time monitoring

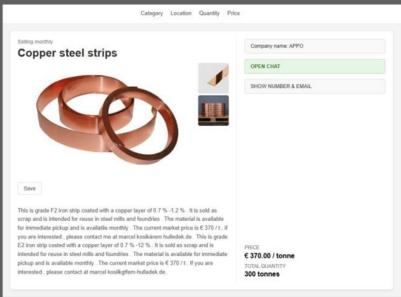
 Plant Manager Software (DCWB)

Marketplace Platform

The KROG Slovenian Marketplace

Online website and phone app (geolocalized)





O O Kristal Trgovni Zdravilišče Latx

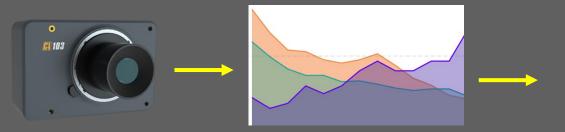
The Slovenian stakeholders

Based on Artificial Intelligence, the KROG marketplace associates the recycled materials produced (DCWB software) with potential final reuse practice.

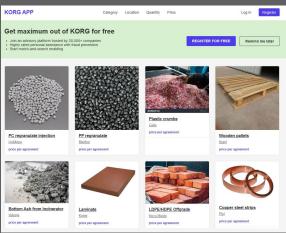
The **Marketplace** notifies to the subscribed community: persons, companies and local entities (administration, municipalities) in Slovenia the availability and possible applications for recycled material produced based on artificial intelligence:

- (1) Architectural Structures Wood and Metals based application in the production of timbers and other structural elements for housing.
- **(2) Artisanal Manufactures** (wood, metals) for public spaces and private home furniture.
- (3) Arts and performances application in the field of liberal arts and performance.

CONCLUSIONS



RGB Camera Analysis of waste collected



Online marketplace platform

The tailored Marketplace helps the local community getting more involved in the circular practice.

OUR REVENUES: Software licence (DCWB) and Marketplace fees