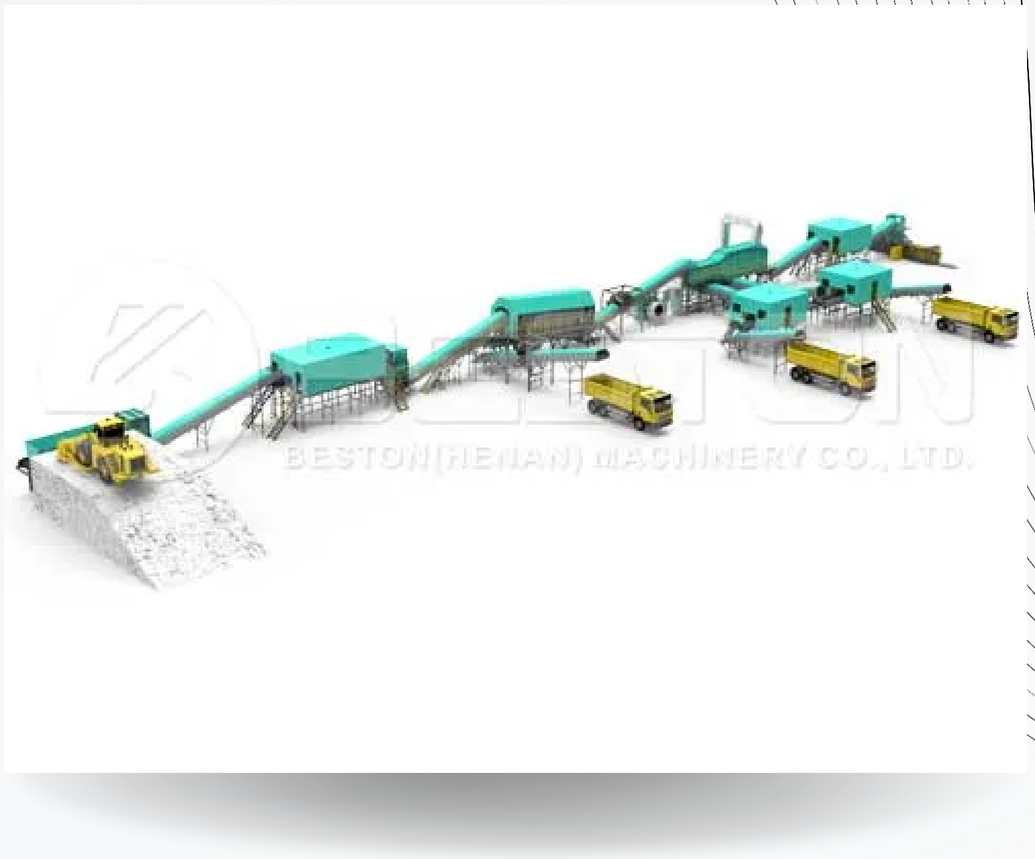
PROJECT

DESCRIPTION

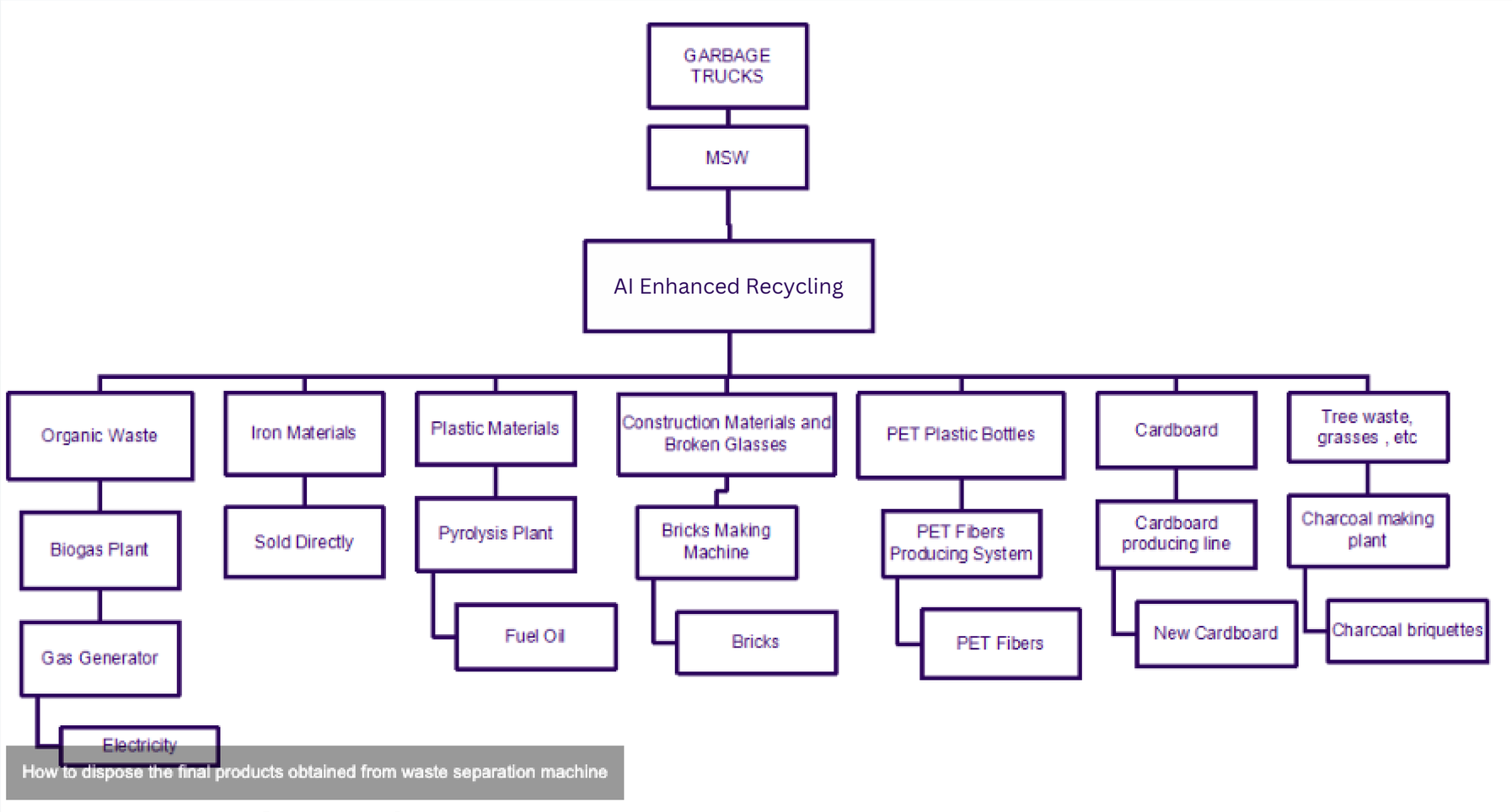
-BINARY BRIGADE

CONCEPT IN OUR PROJECT

- **AI Enhanced Recycling machine** makes use of a variety of sorting means to separate organic matter, plastics, metal, bricks and stones and other substances out from garbage to the maximum, to improve the reusing and recycling of waste. At the same time, the separated waste materials can be further re-processed into useful resources. So, the main purpose of the automatic waste sorter is reduction processing and turning waste into treasure.

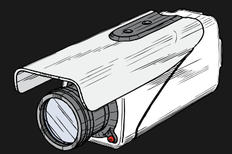


FLOW OF PROCESS



How to dispose the final products obtained from waste separation machine

CAMERA SPECIFICS



Computer Vision Models

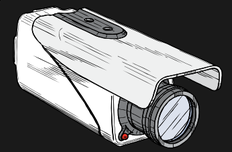
Helps In the image recognition tasks, such as identifying recyclable materials and contaminants

CAMERA 1 MODEL

Natural Language Processing (NLP) Models

It helps in the analysing textual data related to recycling.

CAMERA 2 MODEL

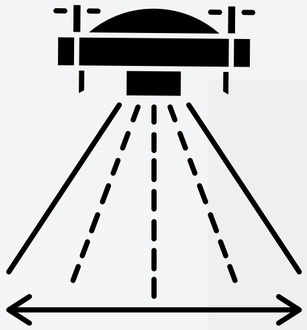


Machine Learning Database Models

Some AI models are trained on extensive databases of material properties and spectra, allowing them to make predictions and identify materials based on patterns.

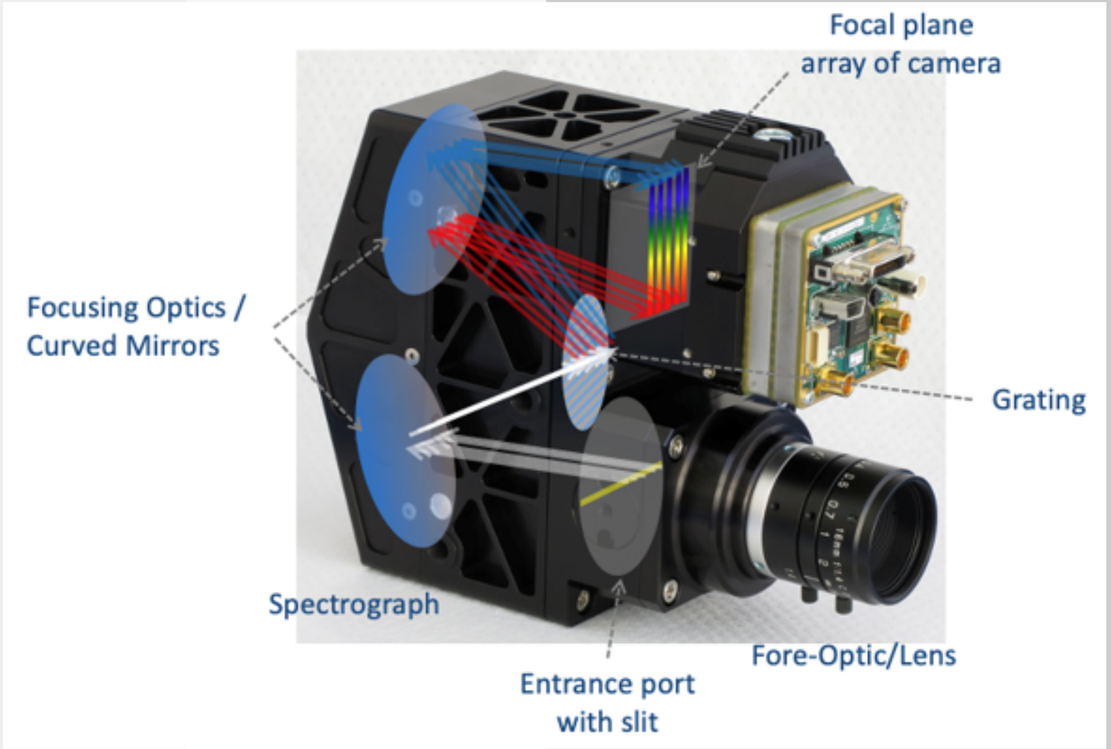
CAMERA 3 MODEL

SENSOR



The Sensor we use is a **Spectrographic Sensor**.It is a scientific instrument used to measure the intensity of light at different wavelengths in the electromagnetic spectrum.

The basic principle behind spectrographic sensors is to disperse incoming light into its constituent wavelengths and then measure the intensity of each wavelength. This information is typically represented as a spectrum, which can reveal important information about the characteristics of the source material.



GOALS

The goal of recycling programs is to reduce waste and minimize the environmental impact of discarded materials

Only

30%

Waste is Recycled

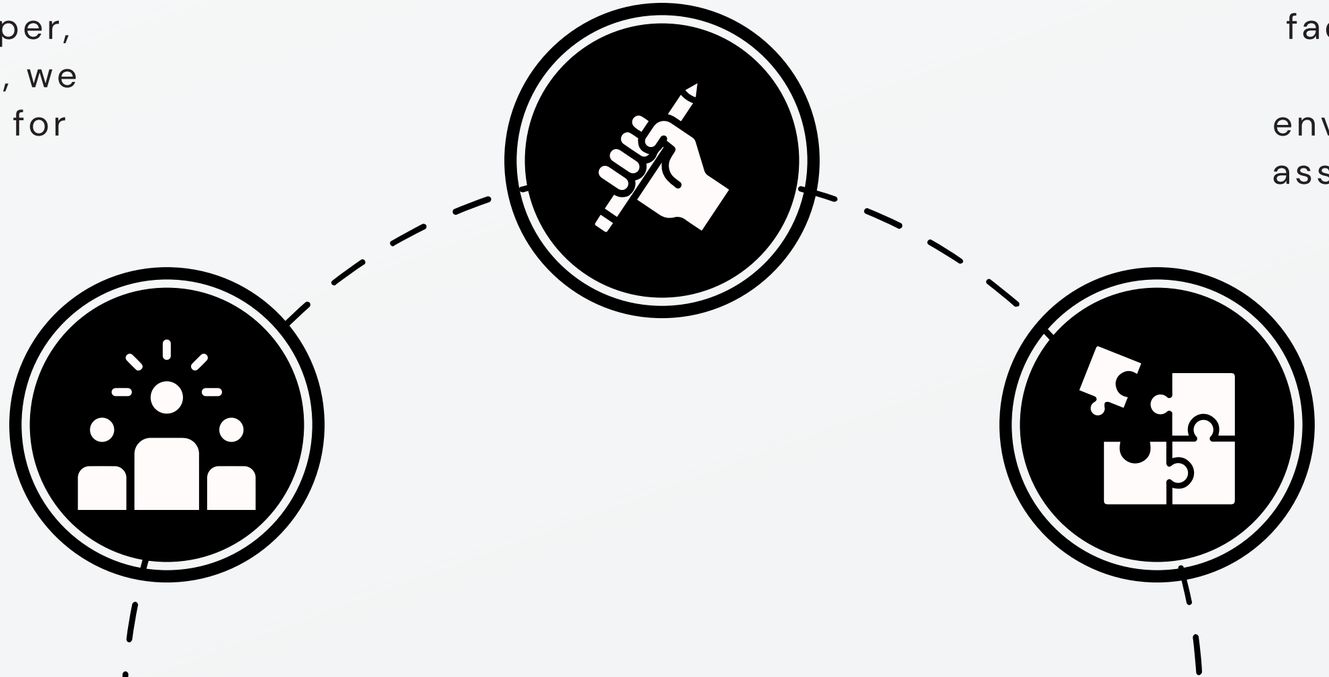
GOALS

Resource Conservation

Recycling helps conserve natural resources such as forests, minerals, and water. By reusing materials like paper, glass, and metals, we reduce the need for raw materials extraction.

Energy Savings

Recycling often requires less energy than manufacturing products from raw materials. For example, recycling aluminum saves up to 95% of the energy required to create aluminum from bauxite ore.



Waste Reduction

Recycling diverts materials from landfills and incinerators, which can extend the lifespan of these disposal facilities and reduce the negative environmental effects associated with them.

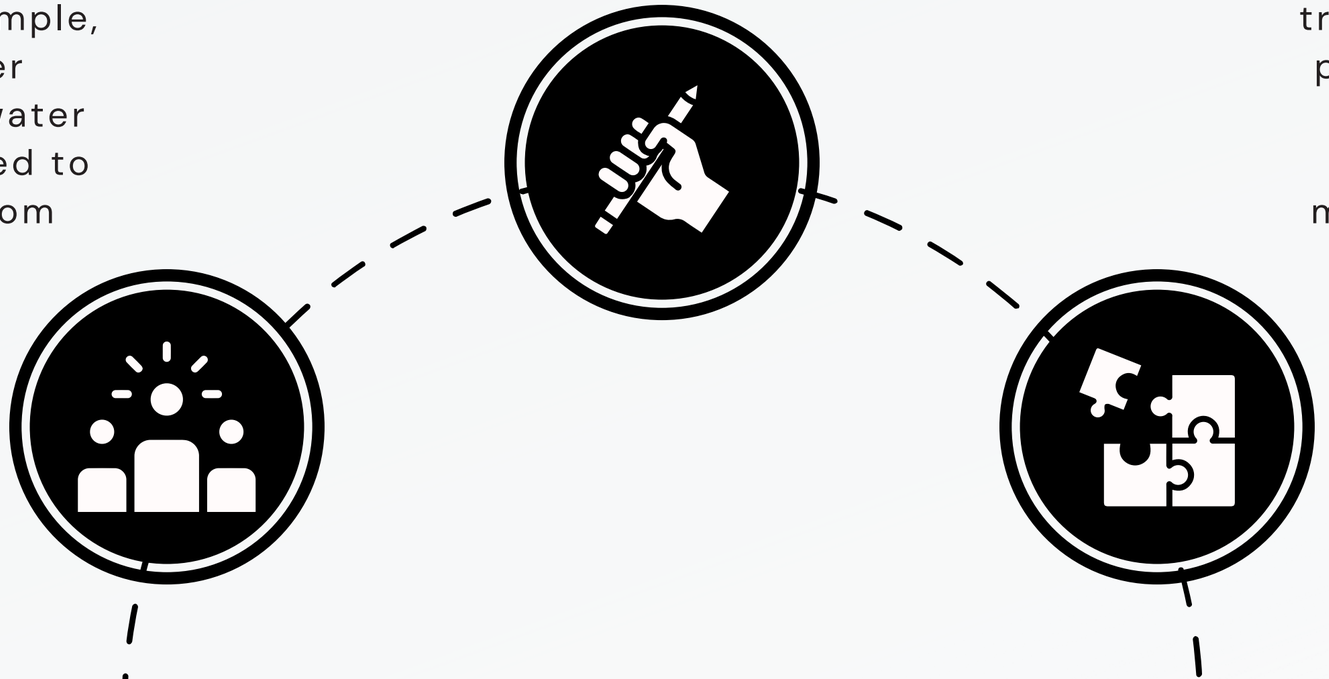
GOALS

Reduced Pollution

Recycling reduces the pollution generated during the extraction and production of new materials. For example, recycling paper reduces air and water pollution compared to making paper from trees.

Conservation of Land

Recycling helps reduce the need for new landfills or the expansion of existing ones, preserving valuable land and preventing habitat destruction.



Greenhouse Gas Emission Reduction

Recycling reduces greenhouse gas emissions associated with the extraction, transportation, and processing of raw materials. This contributes to mitigating climate change.

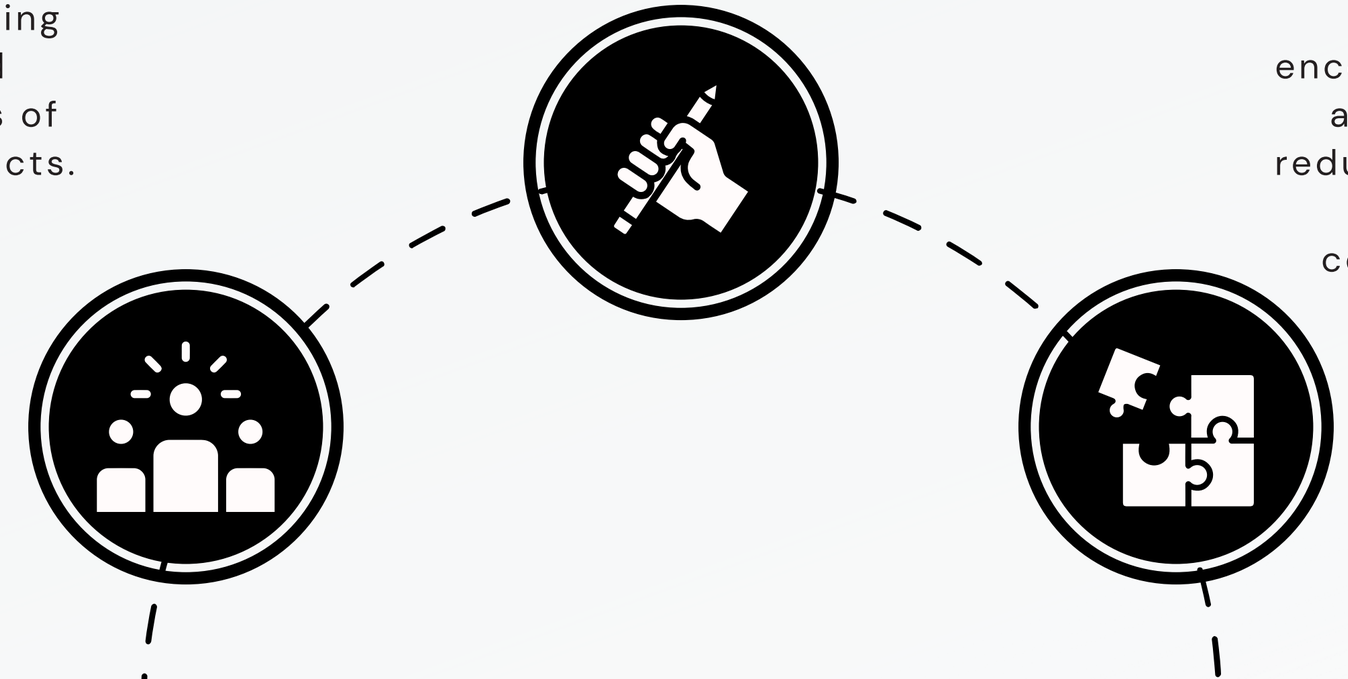
GOALS

Economic Benefits

Recycling can create jobs and stimulate economic growth in recycling industries, such as recycling centers and manufacturers of recycled products.

Promotion of Sustainable Practices

Recycling programs promote a culture of sustainability and responsible consumption, encouraging individuals and businesses to reduce waste and make environmentally conscious choices.



THANK YOU

its my utmost pleasure to present
you our innovation.
hope you loved it!!