

KEY FACTS

5 4 0 ' 0 0 0  
TONS

Of plastic are estimated to be mismanaged in the Philippines every year. SortAI 's target is to reduce this amount significantly.

1 0

INTERMEDIARIES

Post-consumer plastic passes through trash pickers, junk shops and aggregators before ideally, reaching the recycling plant. With SortAI it will be 2.

\$ 3 5 0 k

USD per HOUR

Trapped value, as this is the economic damage from ocean plastic in the Philippines alone.

1 7 0

CELL PHONES PER 100

Inhabitants. Filipinos spend an average of 5 hours on facebook and cell phones are common in all societal levels. The numbers are growing.

**PROBLEM:**

OCEAN WASTE

**LOCATION:**

MANILA

**TEAM:** MIB 1 - TEAM 10

Rajinder Chana

Julie Gjestvang

Chin Chia Lin

Kaan Korkmaz

Truls Torbla

Johanna C. Wameling

BACKGROUND

Tons of plastic enter the ocean every day. Cleaning the oceans is a nice thought, yet it does not solve the original problem. Polluted cities let plastic leak into rivers and finally the oceans. To tackle this, SortAI has looked at some critical cities and found that Manila's waste management in the Philippines lacks the innovation and discipline it needs, to reduce the amount of plastic floating off into the ocean.

THE PROBLEM

- Both government and the waste management sector suffer from corruption and many stakeholders wanting a piece of the pie.
- Without technology it is very expensive to count & weigh the waste pickers' rewards accurately due to the different prices of different plastics.
- Waste pickers live in poor communities and do not have access to vehicles and hence, the recycling plants.

GOALS

- Empower trash pickers with technology to receive their deserved reward and bypass the corrupt junk shops.
- Reduce the amount of mismanaged waste going to illegal dump sites and the ocean
- Involve industry players to recycle more materials in the Philippines and reduce waste.

SOLUTION

Waste Pickers

Scan the QR code on the bag

Scan each item for accurate billing and collect

Call for a ride

Hand off the bag to the driver

GET PAID

Drivers

Answer pickup in your area

Drive to the pickup point

Receive, weigh and scan the bags

Drive to nearest recycling center

GET PAID

CLEANING THE COASTS OF THE PHILIPPINES



Sort AI

FUTURE SCENARIOS

**LOW TECH  
HIGH CORRUPTION**

If our technology is not able to identify the majority of plastic items automatically more manual input will be required, which will add some costs. Invoicing will be more time consuming and the solution will be harder to scale given the corrupt competitive environment.

**HIGH TECH  
HIGH CORRUPTION**

The SortAI network is prepared to unleash the power of AI to fight corruption and reward the trash pickers fairly for their hard work. Cutting out the junk shop intermediaries, will release trapped value for all involved.

**LOW TECH  
LOW CORRUPTION**

If the future of the Philippines have a stagnate growth in technology as well as corruption is decreasing. SortAI to expect a smaller margin, require more manual inputs and more labor-intensive work as machine learning is not developed to fully complete all different aspects of our solution.

**HIGH TECH  
LOW CORRUPTION**

The system today is characterized by high corruption and little competition. In a *High Tech – Low Corruption* scenario, our solution would be faced with more competition on social differentiation aspects. However, the system makes it easy to implement our solution and penetrate the market.

TIMELINE & DATA

aws open source

DARWIN AI

SOLIDWORKS

Google Cloud Vision API

**SORTAI TIMELINE**

2021 Training AI model and working with volunteers

2023 First 2 million bottles collected

2025 AI over 95% accurate at detecting bottles

> 2030 AI can be applied to tackle the larger problem we initially set out to solve

2020 Set up partnerships with local recycling plants and value-chain partners

2030 AI no longer requires photos of every bottle collected

We use AWS to serve all of our data storage needs, as we collect terabytes of data over many years of bottle collection.

The Google Vision API will enable us to label and sort all of the bottles we collect, and combined with SolidWorks 3D modelling, we can simulate thousands of different shapes of crushed plastic bottles which enables our AI to work flawlessly.

KEY STAKEHOLDERS

**Waste Pickers**

Waste pickers will receive higher income and benefit from an improved standard of living. All they need is a camera phone...

**Driver Network**

By being part of our efficient network, drivers will experience improved standard of living, and higher utilization of their vehicles.

**Recycling Facilities**

Partner recycling facilities will benefit from lower transaction and material costs thanks to our technology solution. The resulting social plastic adds to their CSR efforts.

**Communities**

Communities in Manila will enjoy less of waste, reduced power of corruption by not engaging junk shops, and many of its residents will have an increased income.



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