540'000 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.

\$350k

USD per HOUR

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

170 **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 Lir Kaan Korkmaz Truls Torbla Johanna C. Wameling

BACKGROUND

Tons of plastic enter the ocean every day. Cleaning the oceans is a

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
- 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.



THE PHILIPPINES: PLASTIC VS. MISMANAGED PLASTIC

Waste Pickers

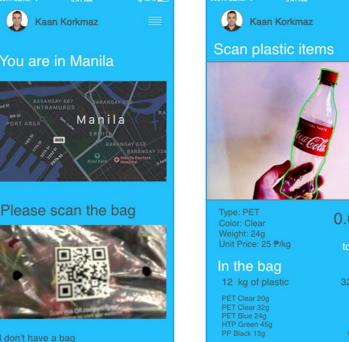
billing and collect

ou are in Manila

have arrived.

Start Scanning

Drive to the pickup point

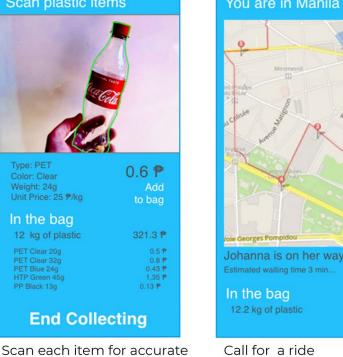


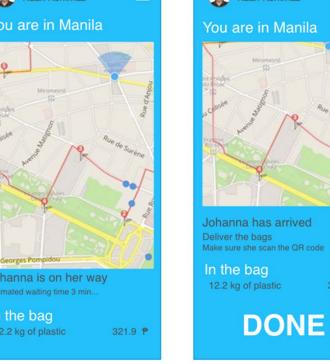
Scan the QR code on

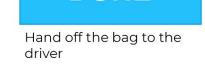
Drivers

Answer pickup in your area

the bag

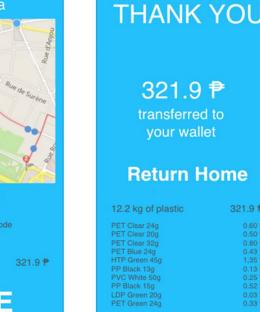






Johanna Wameling

Recycling Center



Kaan Korkmaz

 \propto



GET PAID

450 ₱ transferred to your wallet 60 kg of plastic 22 km travelled Julie 15 kg
Tito 17 kg
Raj 9 kg
Chin 7 kg ute to Recyling Center **Return Home** START

Drive to nearest recyling

GET PAID

CLEANING THE COASTS OF THE PHILIPPINES

bags scanned

DONE

Receive, weigh and scan

Scan the bags



LOW TECH HIGH CORRUPTION

If you can just connect the waste pickers directly to

the recycling plant, it is better for both. It is avoiding

the junkshops who are quite powerful (...) mafias

FRANÇOIS LESAGE

CEO PLASTIC FLAMINGO

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

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 HIGH CORRUPTION

The SortAl network is prepared to unleash the power of AI to fight corruption and work. Cutting out the junk shop all involved.

HIGH TECH LOW CORRUPTION

The system today is characterized by high corruption and little competition. In a High would be faced with more competition on social differentiation aspects. However, the system makes it easy to implement our

reward the trash pickers fairly for their hard intermediaries, will release trapped value for

Tech – Low Corruption scenario, our solution solution and penetrate the market.



The Google Vision API will enable us to DARWINAI Google Cloud
Vision API label and sort all of the bottles we collect, and combined with SolidWorks 3D modelling, we can simulate thousands of different shapes of

SORTAL TIMELINE



2020

Set up partnerships

with local recycling

plants and value- chain

partners

2021 **Training AI** model and working with volunteers



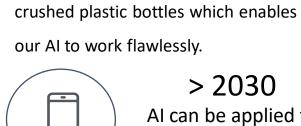
2023

First 2 million

bottles

collected

2025 Al over 95% accurate at detecting bottles



2030

Al no longer

requires photos

of every bottle

collected

We use AWS to serve all of our data

of data over many years of bottle

collection.

storage needs, as we collect terabytes

> 2030 Al can be applied to tackle the larger problem we initially

set out to solve



Driver Network

TECHNOLOGY

PROPELLED

SortAI will provide and App so trash pickers

can scan each item they collect and thereby

build an invoice of their collection.

Technology will optimize pick-up and drop off

DATA DRIVEN

Our image detection solution will be able to

identify pieces of plastic for their type, weight

and assigned market value. Data optimized

trash pick-ups will save trash pickers' time

and enable frictionless drop-offs.

SOCIETY

Corruption, pollution and poverty are critical

topics in emerging economies. Our solution

leaves no room for corruption, targets

pollution at critical points and improves

quality of life for our network participants.

INDIVIDUAL

Our solution uses AI to empower individual

trash pickers to earn a fair living with minimal

friction or corruption. Cutting out junk shops

results in higher wages and reduced poverty

at the bottom of the pyramid.

and alleviate pain points in the process.



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.

enjoy less of waste, reduced power of corruption by not engaging junk shops, and many of its residents will have an

increased income.





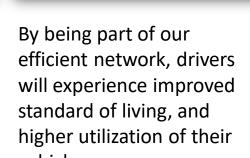
Kemp, Simon; We are Social; Hootsuite. (2020, February). DataReportal Digital 2020 Report. Retrieved from Digital 2020: The Philippines: https://datareportal.com/reports/digital-2020-philippines PARMS. (2020). About Us: The Philippine Alliance for Recycling and Materials Sustainability. Retrieved from PARMS: https://www.parms.com.ph/about

The Ocean Cleanup. (2020). Retrieved from The Ocean Cleanup: https://theoceancleanup.com/ Lesage, F. (2020, April 15). CEO Plastic Flamingo. (J. Wameling, Interviewer) Abbosh, O., Downes, L., & Nunes, P. (2019). Pivot to the Future. London: Nicholas Brealey Publishing

Waste Pickers



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





KEY TAKEAWAYS

RECYCLING CENTER

PAYMENT DISTRIBUTION

w/out SortAl

JunkShop 🔇

Junk Shop 🔇 Junk Shop 🤇

unk Shop

Junk Shop 🤅

Junk Shop

Junk Shop (\$

Junk Shop (\$

Junk Shop (\$

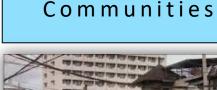
Waste Picker \$





Communities in Manila will





INCLUSIVE

SortAI targets the lowest level of the informal

plastic recycling supply chain: the trash

pickers. By cutting out the corrupt junk shops,

we can improve the lives of many individuals

and include essential stakeholders

NETWORK POWERED

Our network of trash pickers, drivers and

recycling plants will lead to less trash in all

neighborhoods, highly efficient trash pickups

RECYCLING CENTER

PAYMENT DISTRIBUTION

w/ SortAl

\$\$

Driver

Waste

Picker

\$\$\$

7 (\$)

and cost reductions on the plant side.