CIRCULAR ECONOMY EXPERTS

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Pain Points

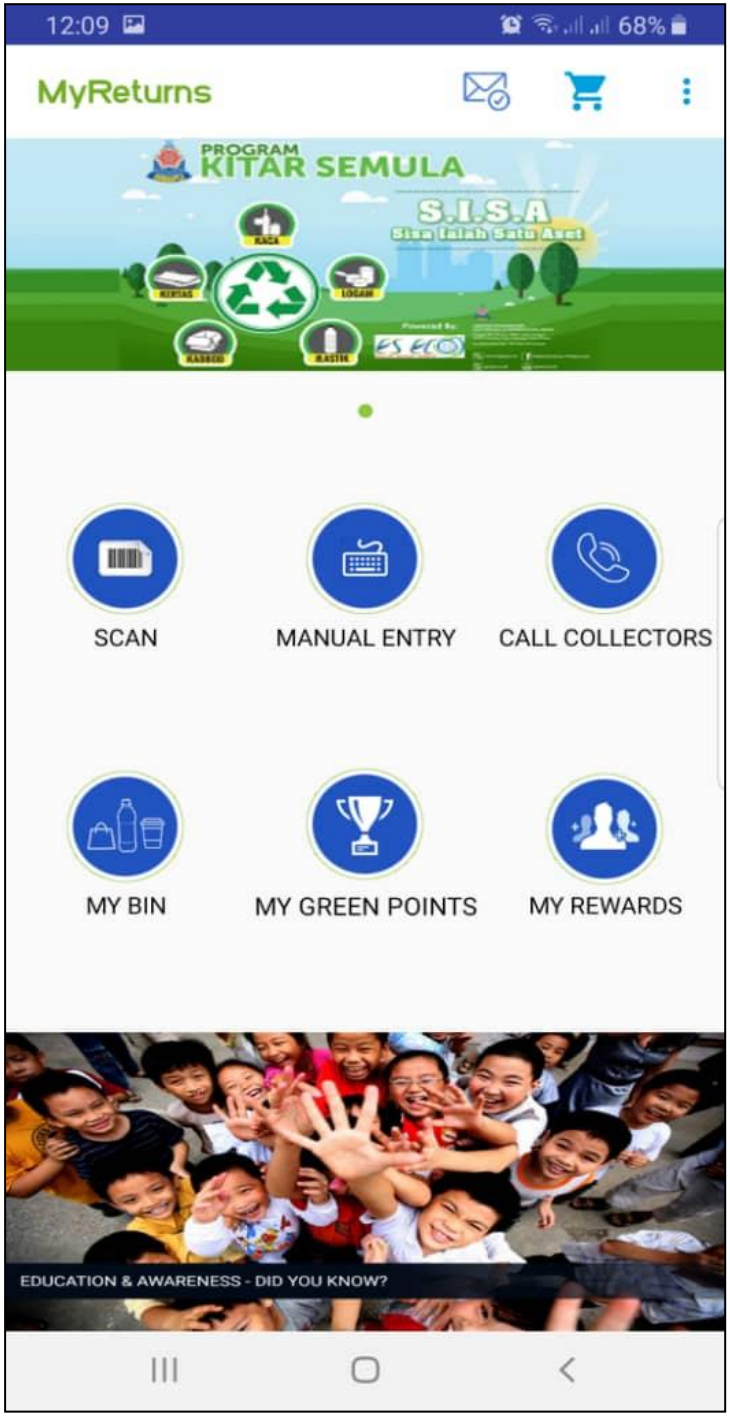
- Lack of infrastructure, poor collection method, regulation
- High contamination rate – leads to import of plastic scraps
- Collectors are choosy – economies of scale
- Unavailability of recycling technology due to lack of supply and inconsistency
- No transparency
- No sustainability
- Illegal branding (reuse/refill containers)
- No RRI data (Recovery & Recycling Inventory)
- Deriving baseline collection and leakages rates for post-consumer plastics products
- Poor engagement/support within the supply chain

Current Scenario of Plastic Wastes in Malaysia

1) Plastic Waste Composition – 13.2% of the total MSW
2) Waste is calculated based on percentage & average weight
3) Brand Owners are NOT involved
4) NO RRI (Recovery & Recycling Index) analysis – NO Data, NO report
5) NO/LOW Sustainability & Circular Economy efforts
6) NO value/low value for non-recyclable/light weight/non-commercial post-consumer plastic waste

Layers of Waste Generators/ Recycling Process of Post-Consumer Plastic Waste in Malaysia

1) Brand Owners
2) Manufacturers (Raw Material Suppliers)
3) Suppliers & Distributors
4) Retailers (Hypermarkets, Malls, etc.)
5) Consumers
6) Waste Collectors (Separate – Sell) [leakages; weight - brands/qty not declared; selective of materials]
7) 1st Recycler (Collect/Buy from waste collectors - macro sorting – Compact – Sell) [no brand/qty; illegal/not registered]
8) 2nd Recycler (Buy – Micro sorting – Crush – Sell)[similar to 1st recycler]
9) 3rd Recycler (Buy – Wash – Palletize –Sell) [mostly legal operators]
10) Buyers from several Industries



MyReturns

Recycle & Be Rewarded

ANDROID APP ON Google play

Available on the iPhone App Store

http://eseco.com.my/

'Waste is a Resource'

ES ECO CIRCULAR ECONOMY EXPERTS

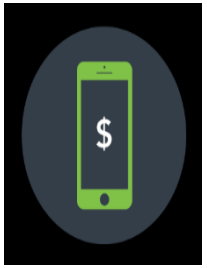
An app by ES ECO, Circular Economy Experts

Consumer uses the product

Consumer Waste Disposal App

Collector : Consumer returns crushed plastic

Consumer rewarded with points

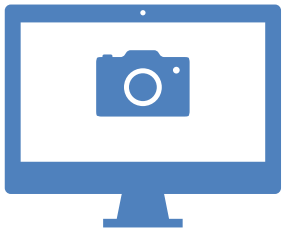


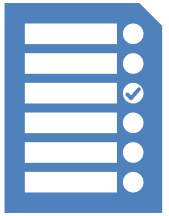
Used product

The data are as follows:
- a) Name*
- b) Items
- c) Mobile number*
- d) Brand audit
- e) Quantity
- f) Outlet*

Collector equipped with Computer Vision

Detailed Report automatically made





Product

Detailed report sent to brand owners

Waste segregated

Processed raw material to brand owners

Processed raw material for other industries

Dedicated Recycling Process

System Flow Chart Diagram

Producer

Product with a Barcode

Barcode

Scan for product detail

Consumer

Return empty for reward

Purchase products

Processed Raw Material for other Industries

Processed Raw Material

Recycle

Recycling Process

Collector/ Recycler

Waste bins or jumbo bags

Separate accordingly

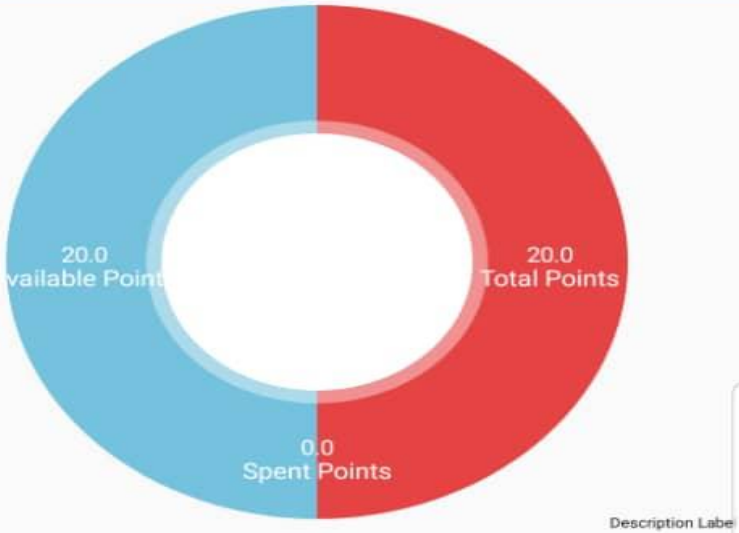
Barcode

Scan empty products

Hyper market

12:52 64%

My Rewards



Total Points

Total Points	Spent Points	Available Points
20 pts	0 pts	20 pts

Redeem Points

12:56 63%

Rewards

Rewards Category

PJ Malabar Cafe

10% Discount on selected food

...

Valid till: 2019-06-15 TO 2019-09-14

SPRINKLES ICE CREAM SHOP

20% Discount on all ice creams

Valid till: 2019-06-22 TO 2019-09-21

FELDA D'SAJI

Corporate Package @ RM28/pax

Valid till: 2019-07-16 TO 2020-01-15

FUJIYAMA JAPANESE RESTAURANT

10% Discount on dine-in food only

Valid till: 2019-07-16 TO 2020-01-15

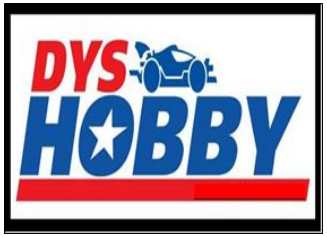
Our Green Reward Partners

Food & Beverages

Our Green Reward Partners

Fashion

Entertainment



Consumer Goods (FMCG)

Our Green Reward Partners

Pet Shops

Health & Beauty

Books & Stationary

The Green Reward Partners are growing to join MyReturns for a better environment

BENEFITS

Collection through circular economy solution offers:

1. Can deploy at all location
2. Customer/collector can be rewarded when they recycle
3. Creates job opportunity – social entrepreneurship – turning informal collectors to formal and trained collector
4. Real time data collection help informed decision
5. EPR can be implemented because manufacturer can know whether their product is being recycle
6. IoT allow operator to plan their collection, hence reduce cost
7. Now manufactures can know if their packaging being recycled or not therefore increase CSV (creating shared value) effort
8. Creates a value to all types of post-consumer waste
9. No/low contamination
10. Consistent supply creates market demand
11. Data on collected materials help decision on production, need in technology, etc.
12. Quantify collection against production/supply

Data sharing

Know Who Is Your Highest Contributor

<u>Data Collection, Reporting & Commitments</u>

- Data collected can be supplied to the project owner.
- Reporting on data collected will include the details as mentioned below together with sustainability report.

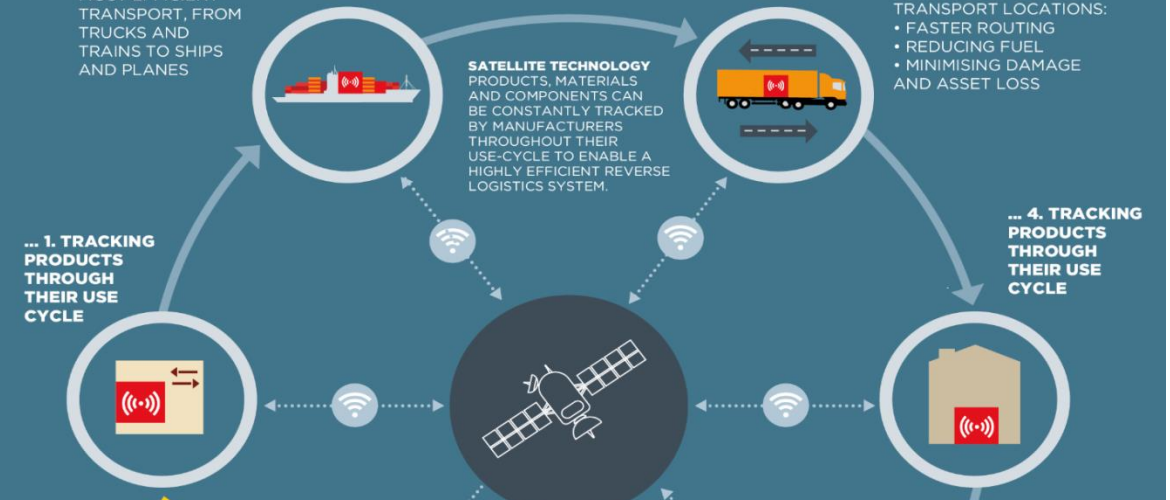
The data are as follows:

a) Name*
b) Items
c) Mobile number*
d) Brand audit
e) Quantity
f) Outlet*

DATA is crucial for planning – Recovery & Recycling Inventory (RRI)

A global circular economy will become ‘intentionally transparent’. This open mindset has released a surge in trust throughout the world’s supply chains that encourages higher visibility and greater control over responsible sourcing. ES ECO solutions now have ethical and sustainable circular supply chains in which the rewards are shared equitably, right from local communities through to the primary consumer and beyond.

INTELLIGENT ASSETS HELPS
GETTING THE RIGHT STUFF TO THE RIGHT PLACE BY...



... 2. OPTIMISING FLEET EFFICIENCY
INFORMING THE MOST EFFICIENT TRANSPORT, FROM TRUCKS AND TRAINS TO SHIPS AND PLANES

SATELLITE TECHNOLOGY
PRODUCTS, MATERIALS AND COMPONENTS CAN BE CONSTANTLY TRACKED BY MANUFACTURERS THROUGHOUT THEIR USE-CYCLE TO ENABLE A HIGHLY EFFICIENT REVERSE LOGISTICS SYSTEM.

... 3. OPTIMISING DELIVERY ROUTES
REAL-TIME DATA SHOWING GOODS & TRANSPORT LOCATIONS:
- FASTER ROUTING
- REDUCING FUEL
- MINIMISING DAMAGE AND ASSET LOSS

... 1. TRACKING PRODUCTS THROUGH THEIR USE CYCLE

... 4. TRACKING PRODUCTS THROUGH THEIR USE CYCLE

7. AN EFFICIENT REVERSE LOGISTICS SYSTEM
DATA ALLOWS ASSET OWNER TO QUANTIFY THE COST AND BENEFITS OF ALL REVERSE LOGISTICS OPTIONS

... 5. AVOIDING WASTE
DATA INFORMS WASTE OPERATORS OF HOW TO CONTINUALLY IMPROVE THE SYSTEM AND DESIGN OUT WASTE

...6. SORTING RECYCLED MATERIALS
MULTIPLE TYPES OF MATERIALS ARE PRECISELY SORTED, READY FOR REUSE AND RECYCLING. INCLUDING INCENTIVE SYSTEMS FOR CITIZENS AND BUSINESSES

MyReturns

...MOBILE TRACKING FOR ASSET OWNERS

WE PJ
RECYCLE, REDUCE, REUSE
Think before you throw!
S.I.S.A

WE PJ
RECYCLE, REDUCE, REUSE
Think before you throw!
S.I.S.A
HINO

CORN FLAKES
Kellogg's
PROGRAM KITAR SEMULA
S.I.S.A

BJR 7657

KITAR SEMULA

SPRAY PAINT
PLUS

Case Study Results

- Current engagement with MBPJ at SS22 & SS22A
- Total penetration of residents using MyReturns – 70% of 832 residents
- Duration 6 months – since April 2019
- Recyclable items are being segregated by the residents using MyReturns app; collected and sorted based on types, brand, quantity, etc. by ES ECO
- Real time data during collection help fast decision making
- Create Shared Value between the producers and consumers
- Mutual benefit (win-win) for all

Era Suria Ecopreneurs Sdn Bhd (ES ECO) received a certificate of appreciation from the Mayor of Petaling Jaya, Dato' Mohd Sayuti Bakar for its efforts in cultivating 3Rs communities and promoting 'Circular Economy' via its IoT system and mobile application 'MyReturns' among the residents of Petaling Jaya.

What are the benefits to our Green Reward Partners?

- ✓ Advertisement & promotion
- ✓ Store locator feature (dealers)
- ✓ Growth of customer base & revenue - new opportunities
- ✓ In-app campaign(education & awareness via technology)
- ✓ Support 'GREEN' initiative & Corporate Environment Responsibility (CER)
- ✓ 'GREEN Business' endorsement by DOA; Greentech Malaysia; MIDA; DOE-MESTECC
- ✓ Green Investment Tax Allowance (GITA) and/or Green Income Tax Exemption (GITE) by Greentech Malaysia/MIDA
- ✓ Creating Shared Value (CSV)
- ✓ Zero Waste to landfill
- ✓ Zero Environmental Pollution
- ✓ Cost saving
- ✓ Eco-friendly – low carbon
- ✓ Promote Recycling
- ✓ Communications materials (infographic; video; notifications)
- ✓ Customer perceptions
- ✓ Brand loyalty
- ✓ One-to-one engagement
- ✓ 4Ps Marketing (Product, Price, Place, Promotion)

List of Qualifying Activities for GITA & GITE (Greentech Malaysia)

No.	Qualifying Activity	Remarks
1.	Renewable Energy	Commercial & industrial business entities which undertake generation of energy by using renewable energy resource such as: Biomass, Biogas, Mini hydro, Geothermal & Solar power.
2.	Energy Efficiency	Companies investing in energy efficiency equipment or technologies and/or to replace old inefficient equipment and invest in energy saving equipment.
3.	Green Building	Building owners of the commercial/industrial building that have been awarded green building certificates from locally developed rating tool/certification body approved by the Government.
4.	Green Data Centre	Companies that purchased any energy efficient product or solution for data centre.
5.	Waste Management	Companies which undertake/invest in waste recycling or waste recovery or waste treatment and additional activities such as composting or store or collection or disposal or circular economy.

Benefits for all

Producer

- Zero waste and reduce CO2 & GHG emission from products waste (reduce carbon footprint)
- Support Circular Economy – Waste as Resource
- Data support RRI (Recovery & Recycling Index)
- Enables R&D (Research & Development)
- Encourage producers to take accountability of their products throughout the supply chain
- Create brand loyalty
- Sustainable and traceable products
- Cost reduction

Consumer/ Citizen

- Eradicate and reduce waste at landfill
- Encourage the habit of recycling and change in mindset
- Increase national recycling rate
- Obtain financial incentive for recycling
- Reduce Carbon Footprint
- Education & Awareness

Nation

- Zero Waste – Reduce waste at the landfill
- Reduce energy – transporting waste
- Reduce CO2 & GHG emission at the landfill
- Enhance Recycling Industry
- Reduce importation of waste
- Provide data support (RRI)
- Provide enhancement to waste management stream
- Change in public mindset towards material recycling
- Increase national recycling rate

Recycler

- Source of clean post-consumer waste
- Reduce energy – transporting waste
- Enhance Recycling Industry
- Reduce importation of waste
- Provide data support (RRI)
- Provide enhancement to waste management stream
- Increase national recycling rate
- Opportunity for Up-cycling

KEY Success factors

Commitment Towards a Sustainable Green Initiatives

MyRVM

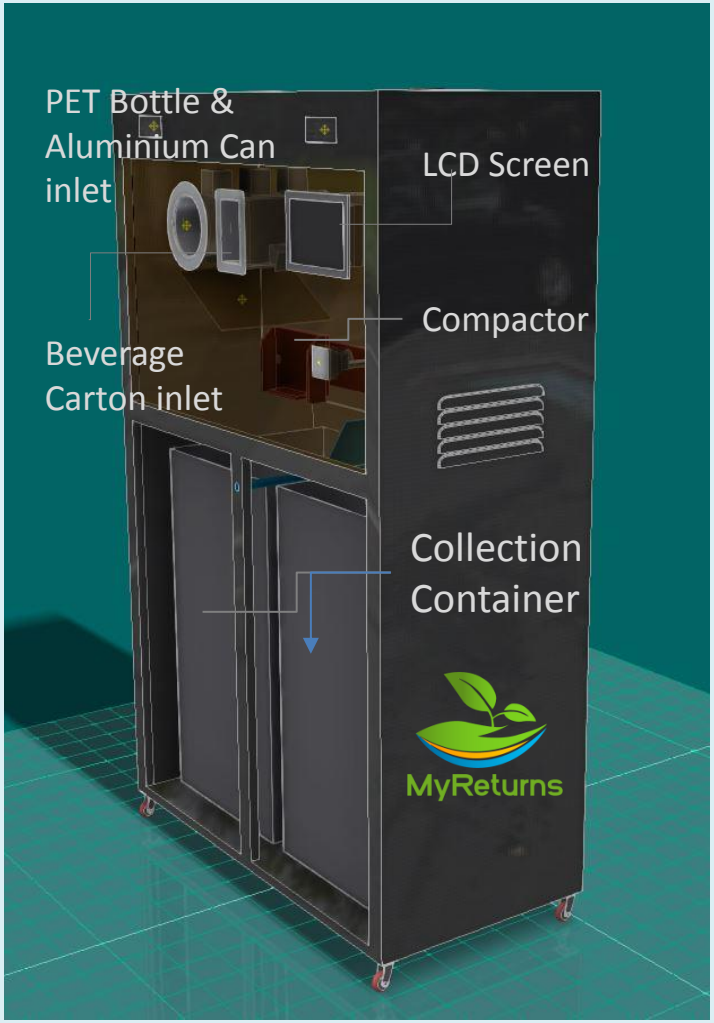
AN INNOVATIVE RECYCLING SOLUTIONS

Prepared by:
Era Suria Ecopreneurs Sdn Bhd
February 2019
Version 2.0

Reverse Vending Machine (RVM)

CURRENT VERSION

NEW VERSION



RVM prototype submitted to SW Corp on 4th January 2019.

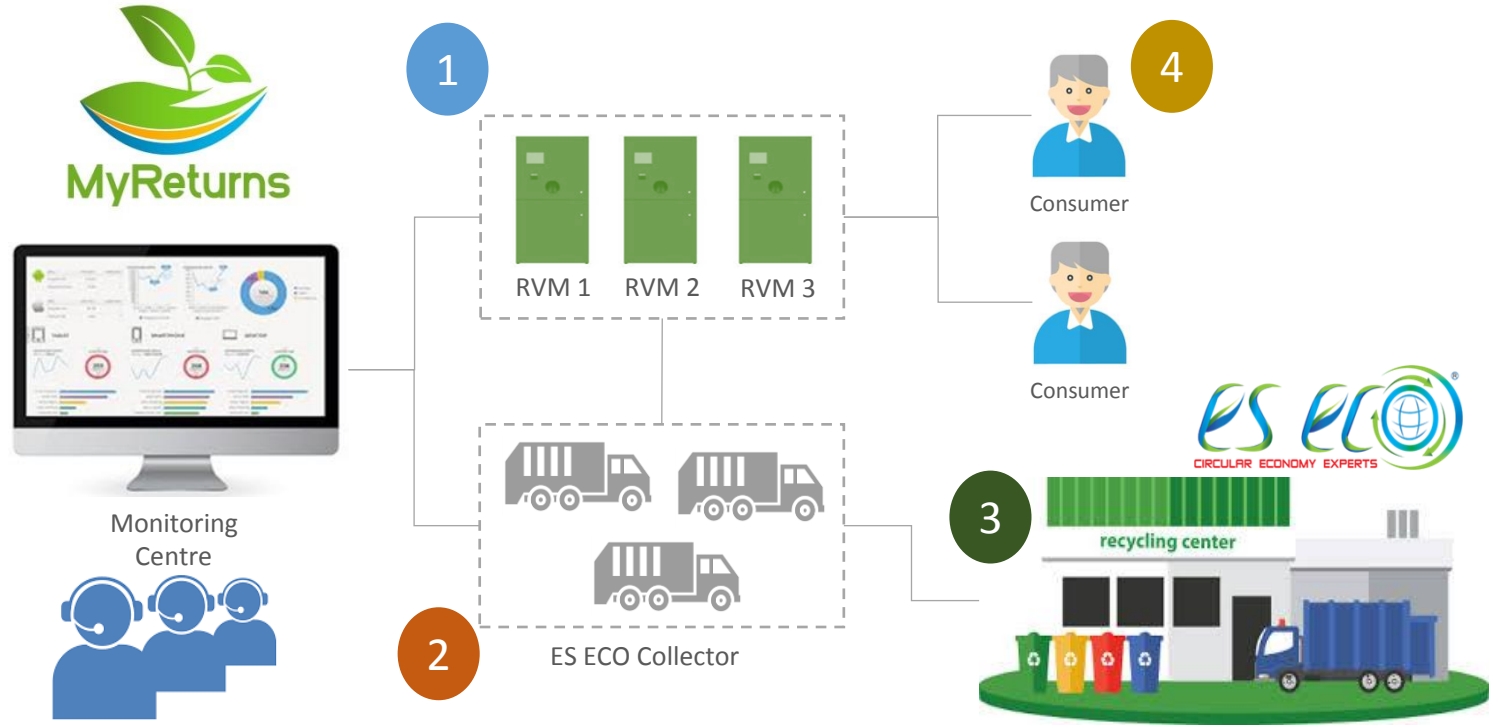
- PET bottles
- Aluminium cans
- Beverage cartons

Integrated with MyReturns mobile app and a back-end support system.

Available at:
- SW Corp Cyberjaya
- PJ Eco Recycling Plaza
- 1U Shopping Mall

OPERATIONS OVERVIEW

Complete Eco-System For Recycle Waste Initiatives



Checking method:

1. Call from user
2. Automated: ping the machine every 30min

1

The sensors will identify when the RVM is almost full and ready for collection

2

ES ECO to collect all the waste & send to recycling centre.

3

Waste will be weigh, sorted by grade, brand & type for circular economy.

4

MyReturns will reward the consumer.

THANK YOU

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