

Holistic Circular Economy Platform



# COLLABORATIONS WITH PRIVATES TO SAVE OUR PLANET

2023 Jeju Plus International Environment Forum





# End-to-End Circular Economy Platform for Recycling and Reuse

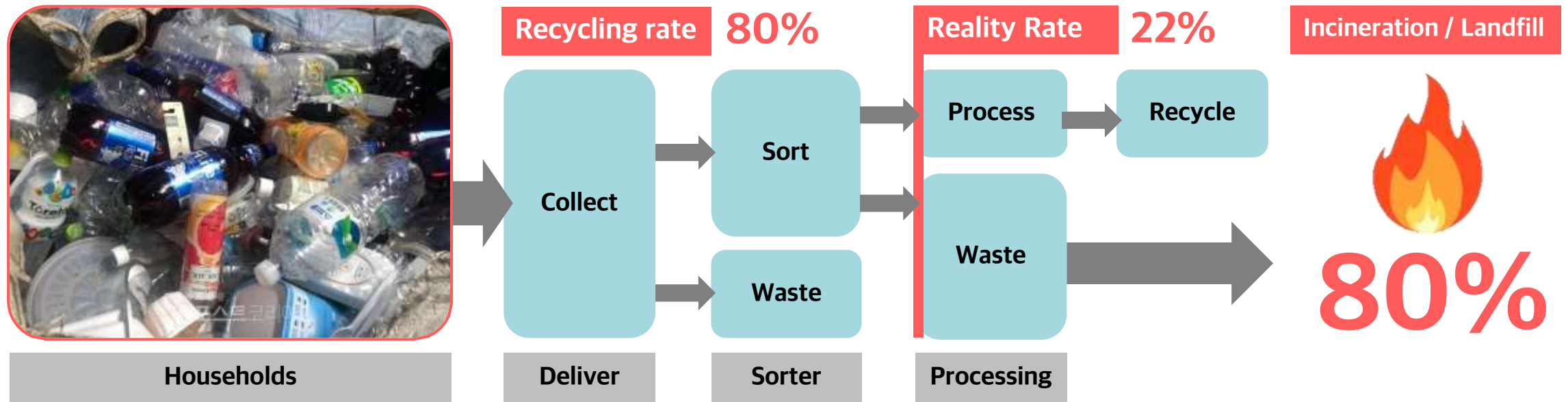
Driving Social Impact and Sustainability Together



End-to-End  
Circular Economy  
Platform

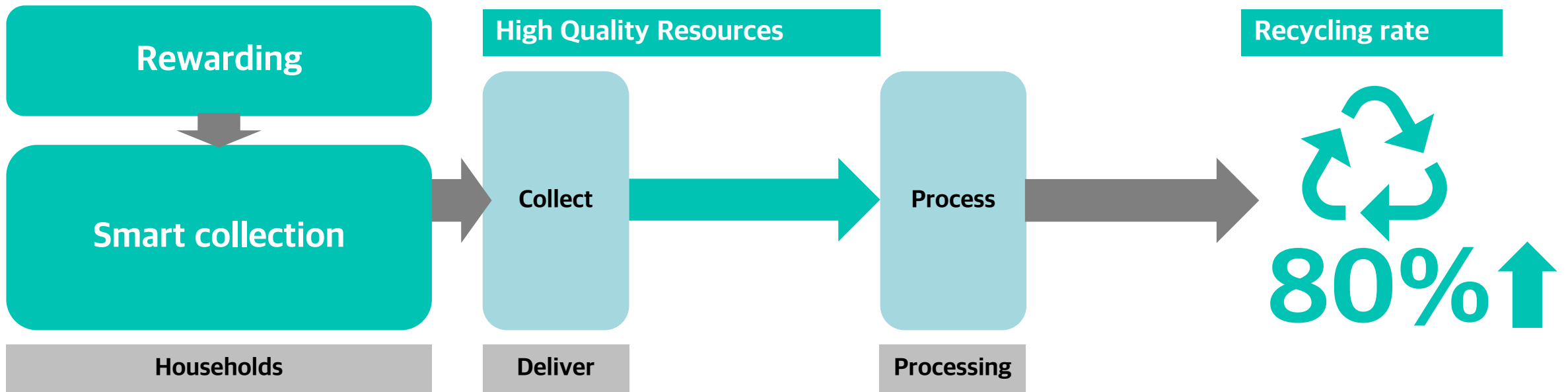


# Unsorted disposals by users makes recycling unviable



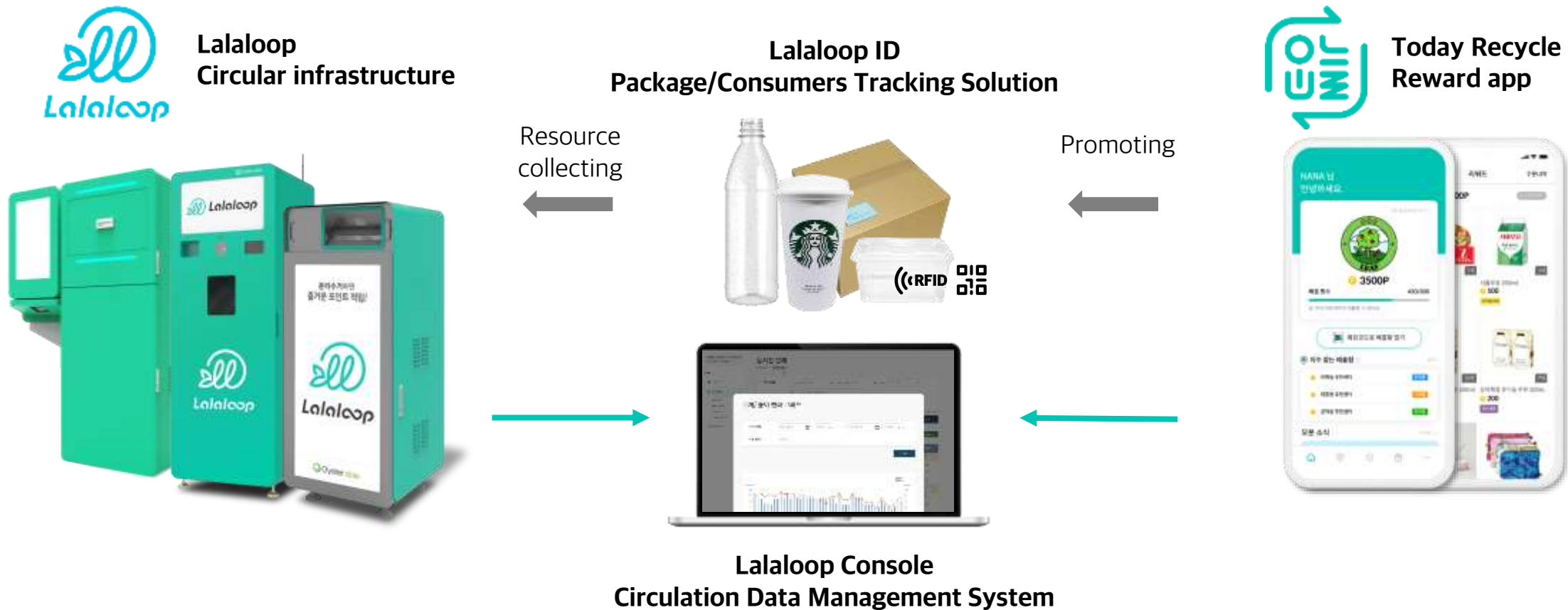
\*2017 [GreenPeace]

# Smart infrastructure and rewarding can lead to clean separated disposals



\*2016 [KORA]

# Holistic Solution for Consumers Circulation over Recycling



3 Product [Easy & Convenient device]

# Kiosk collecting circulations closed to the life area

## Residential Area



## Public, Commercial Area



3 Product [Easy & Convenient device]

# Collaboration with Various Privates and Publics





# Lalaloop can cover all reusables and recyclables

Recycling



Reuse



One Lalaloop solution



# Lalaloop can cover all reusables and recyclables

## Recycling



## Reusable



# Broad market share with F&B industries and Gov. references

## Recycling Value chain



Local recycling Value chain building



Package collecting and recycling solution POC



Residential area recycling resource collecting POC

## Reusable Value chain



Reusable cup circulation management system



Reusable food container collection system



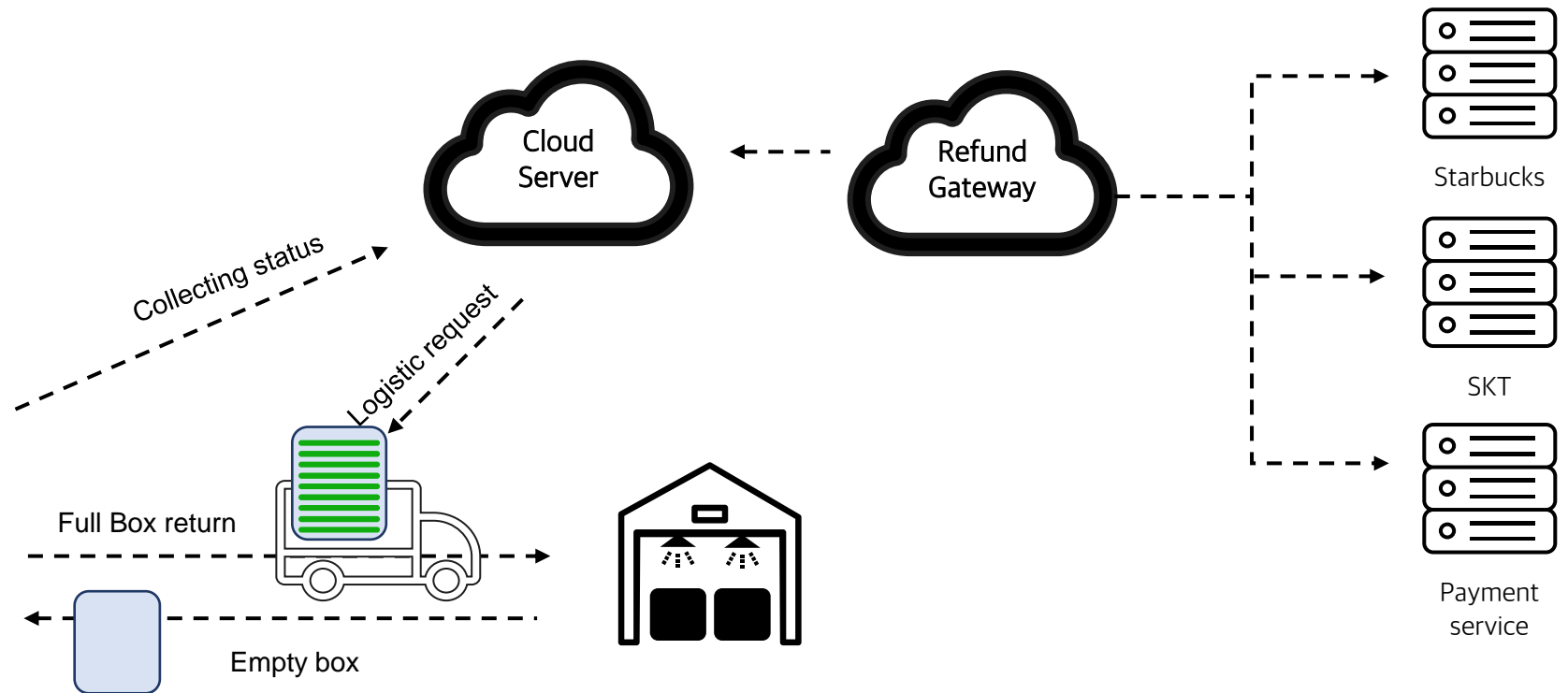
Reusable shopping bag collection system

## Key case in Reuse

- Reusable cups provided at Starbucks in Jeju
- Return used cups at a store or airport Lalaloop Collection machine.
- Returned cups are washed and sterilized at the washing station and then resupplied.
- Roll in the project
  - SK Telecom: Project Organizing
  - Happy Connect: Production and supply of reusable cups
  - Starbucks: Beverage manufacturing using reusable cups
  - Oysterable: Supply of reusable cup recovery system



# Oysterable's Roll - Collecting machine and system structure



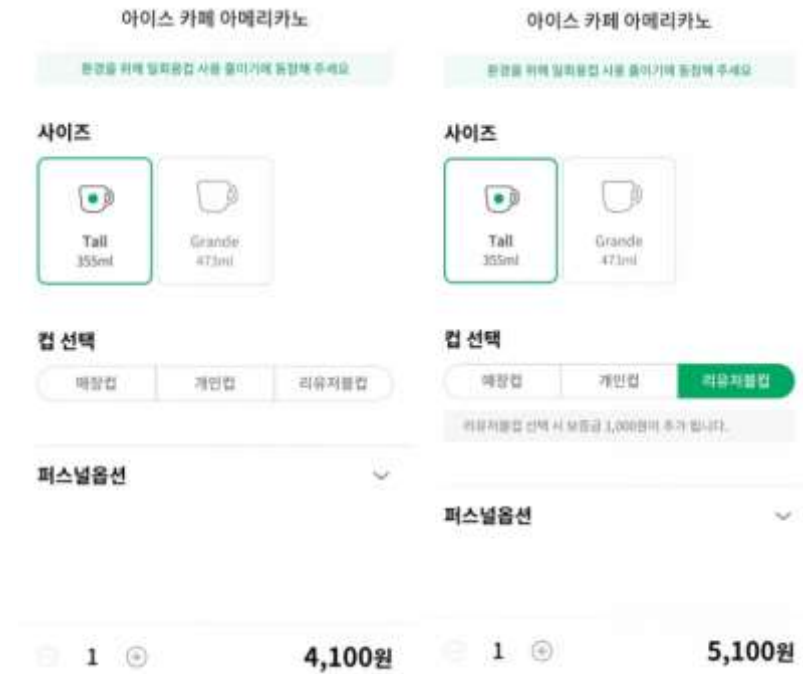


# Beverage Order with Reusable cup

From Barista



From App



## 4 Case: Reusable Cup Project

# Reusable cup

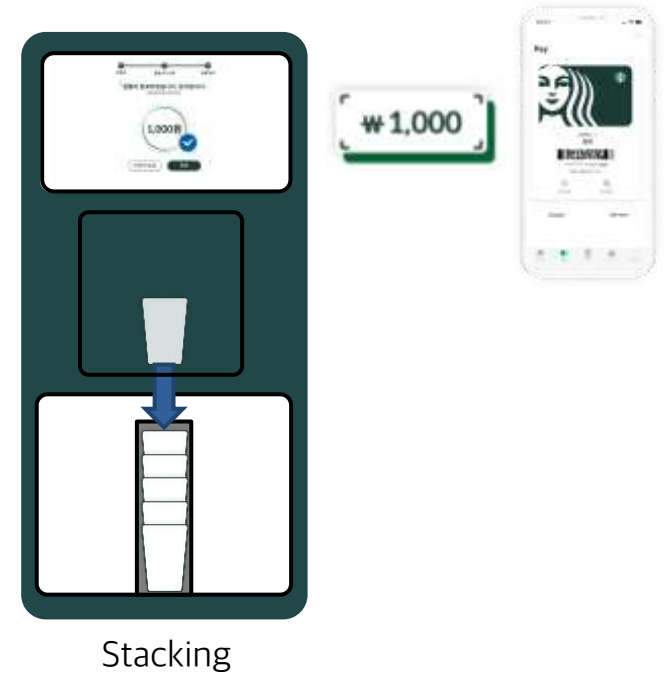
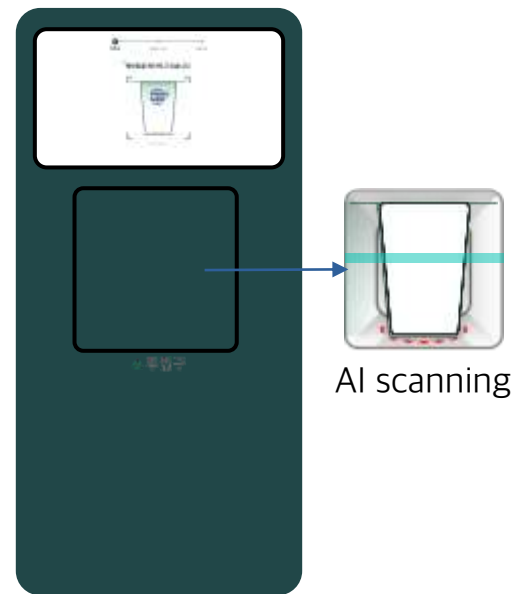


- Radius 92mm, Height 140mm
- PP Materials
- Same cup design with original Starbucks cup



4 Case: Reusable Cup Project

# Collecting process



# Recognition and relearning of reusable cups through Cloud AI



Positive



Negative

# Refund Gateway API channel for convenient refunds

## Legacy RVM



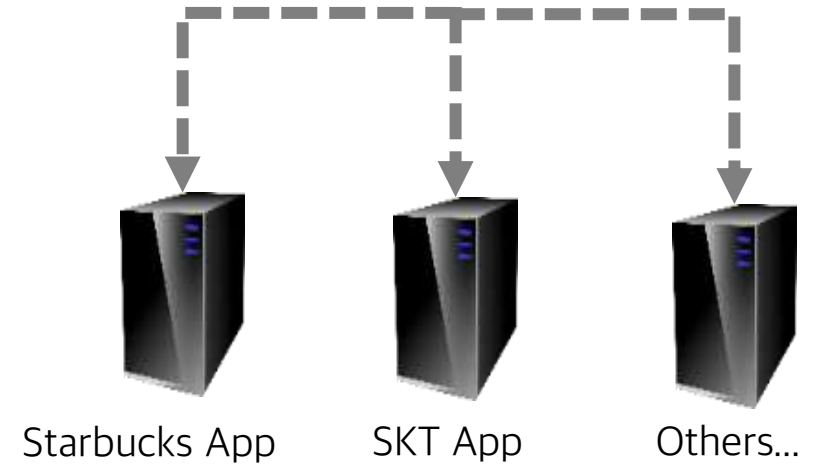
Phone number



Receipt

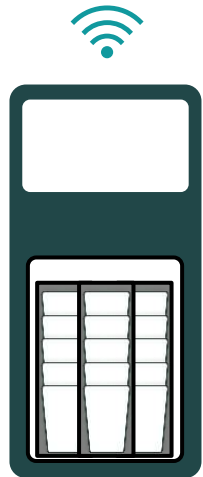


## Refund gateway system

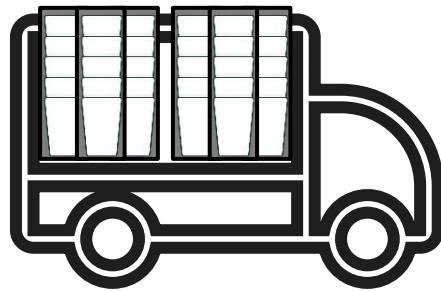


# Reusable Cup Circulation

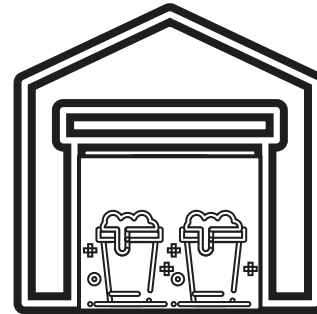
Cup collecting



Returning



Washing



Re-providing



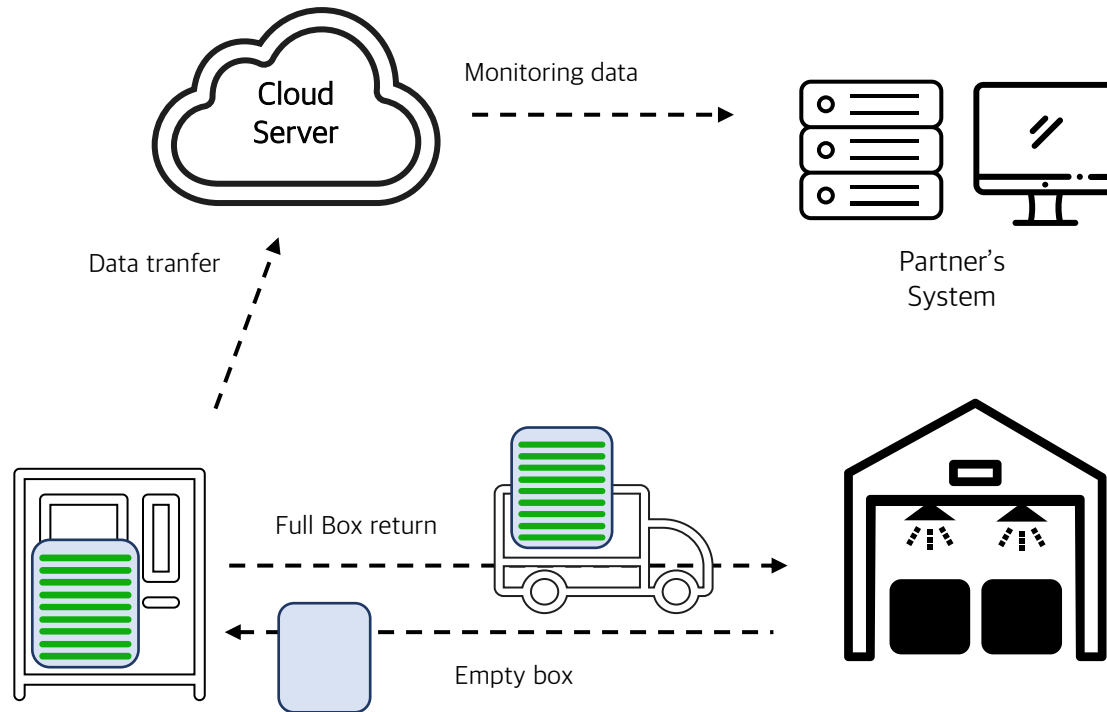
## Washing Center in Jeju



- Dodu-dong, Jeju-si
- Process to remove odor, discoloration, and oil
- International standard cleaning manual and hygiene standards



## Data management



- Machine health monitoring
- Capacity status and recovery notification
- Refunding monitoring
- Remaining cash management
- Store return status
- Remote support

## Leading the active spread of reusable cups

Lalaloop cup Machine

**Over 130 machine in Korea**

Return rate

**Over 85% return rate**



## Problems considering project extension

- Difficulty securing use in cafes and institutions
  - Container design changes, customer custom requirements
- Cafes that consumers want do not use reusable cups
  - Consumer choice is limited as there are not many cafes that handle reusable cups.
- Reusable cup life cycle tracking is not possible
  - Compared to disposable cups, reusable cup waste and carbon reduction cannot be tracked.



## LalaLoop Cup, the most easily introduced reusable cup



**1**

**Immediate application in anywhere**

**2**

**The easiest Single-use waste reduction**

**3**

**Carbon Reduction report available**

## Greater benefits for users, more convenient and ESG for institutions/companies



### USER

- Rent-a-cup and get discount in any cafe
- Be free from a tumbler carrying and washing
- Easy to go, easy to return with unmanned 24 /7 service
- Carbon neutral incentive available



### CLIENT

- The easiest way to start ESG action
- Plug and play solution for reusable cup
- Carbon neutral data calculation and incentive available
- Be free from reusable cup management

## From LCA tracking with rental/return infrastructure and reusable cup ID



### Rental and return infrastructure

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- Rental/return machine system
- Reusable Hub operation for privates and publics
- Real-time control of rental, return, refund, and collection



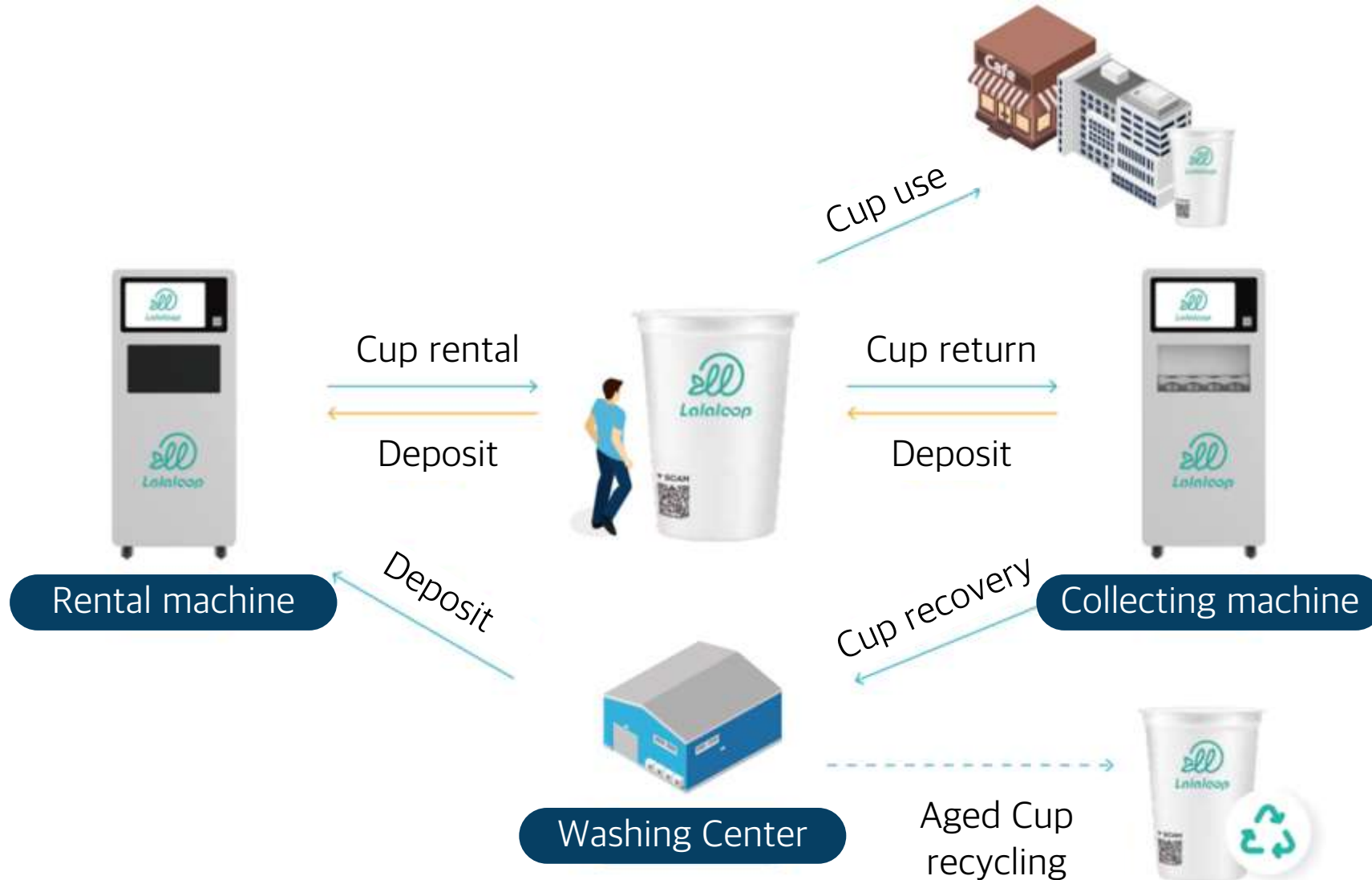
### Reusable ID tracking/management

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- Unique ID for a reusable cup
- Reusable cup rental, return, usage frequency data tracking
- Measurement of carbon reduction in reusable cups

5 Next Step [Lalaloop Reusable Cup system]

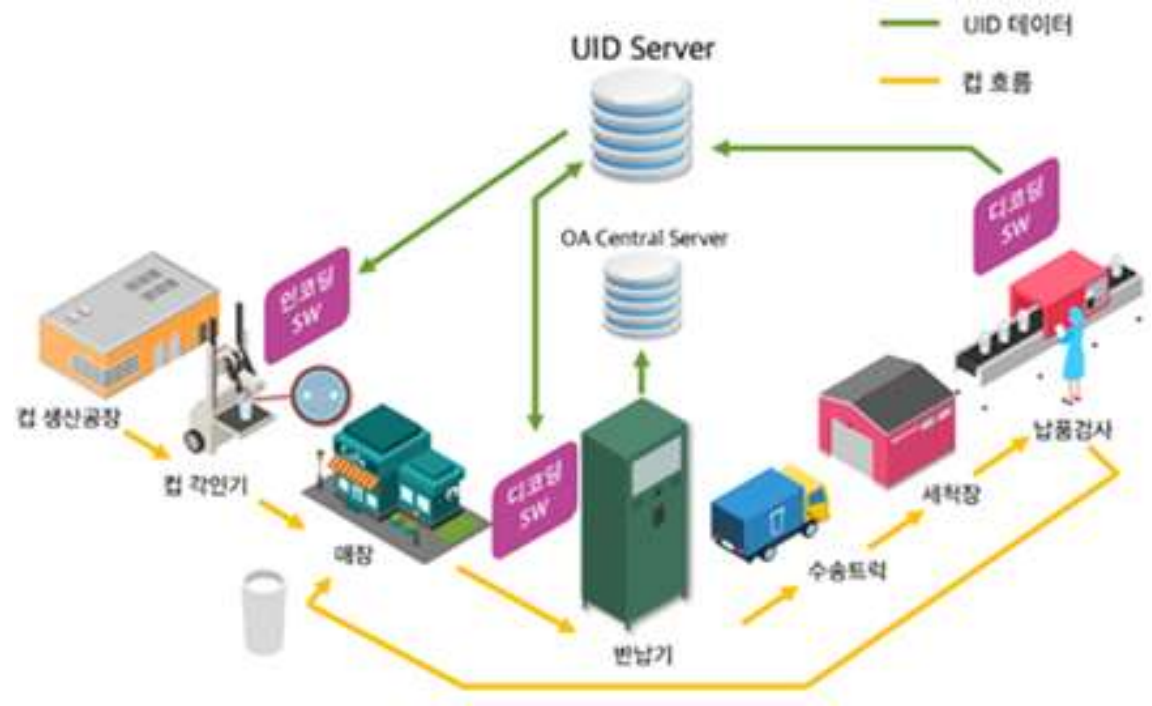
# Focus on user not a cafe, for better and faster use and extension






# Track the entire flow of circular resources with Lalaloop ID



**Lalaloop ID**  
(QR, Barcode or RFID)



## Holistic Unmanned Solution for Reusable cup circulation

|        | Rental Machine   | Collection machine   | Reusable Cup   |
|--------|--|--|--|
| Design |                                |                    |  <p>16oz</p>    |
| Spec   | <ul style="list-style-type: none"> <li>• Power : AC220VM 50(60)Hz</li> <li>• Network : LAN, WIFI, LTE</li> </ul> | <ul style="list-style-type: none"> <li>• L : 745 W : 550 H : 1750</li> <li>• Capacity 400EA</li> </ul> | <ul style="list-style-type: none"> <li>• Size : 16oz</li> <li>• Material : PP, BPA Free</li> </ul> |

5 Next Step [Lalaloop Cup machine]

## Faster and Easier Process



5 Next Step [Lalaloop Reusable Cup system]

# Faster extension with Seoul Government Subsidy



SR Suseo HQ Cafe



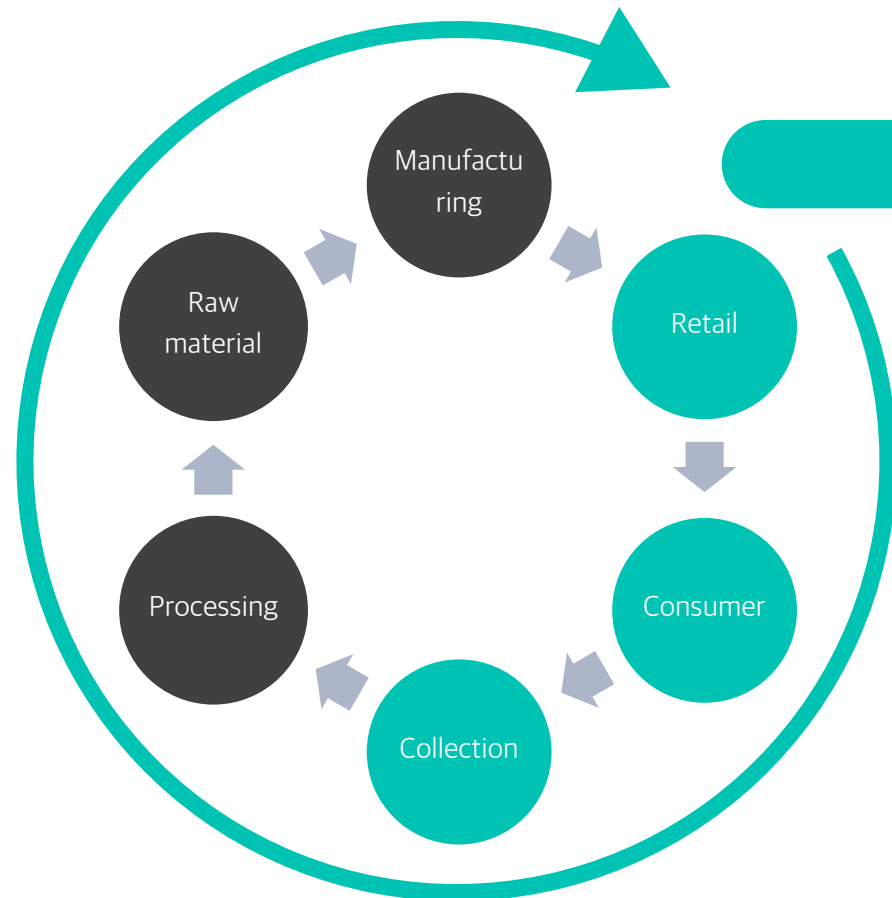
Hanhwa Energy Solution HQ



Seocho-Gu city hall cafe

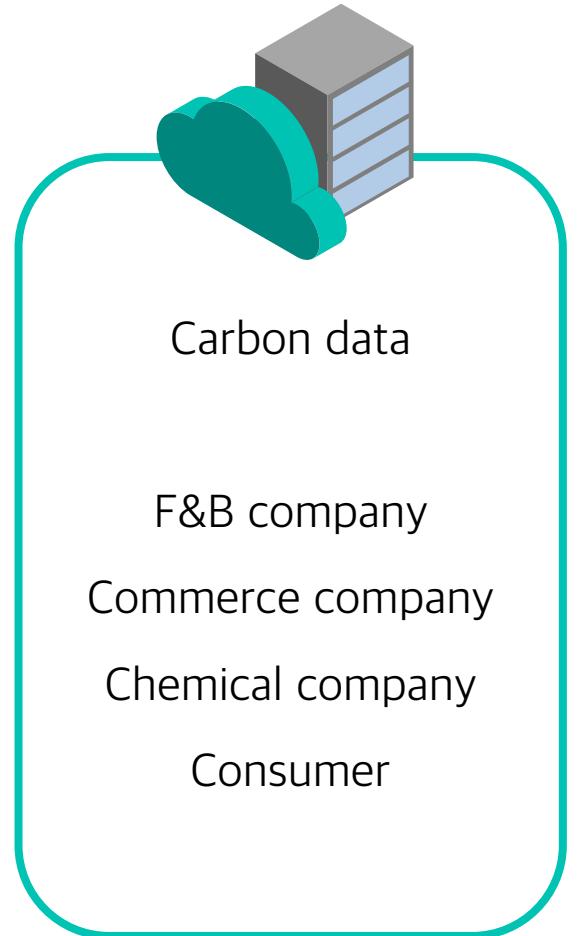


# Lalaloop ID - Package LCA tracking solution for carbon neutral data



**Lalaloop ID**

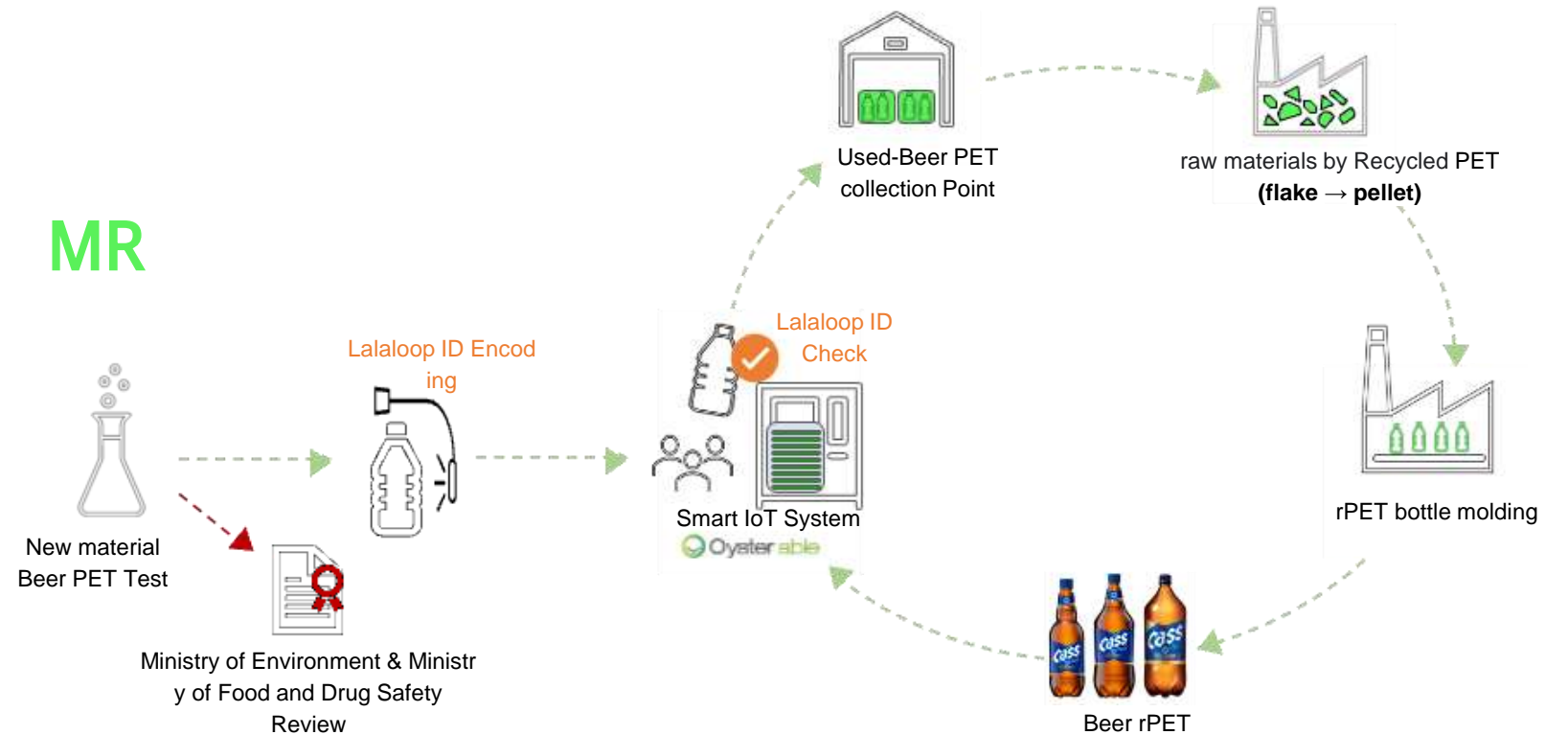
(QR, Barcode or RFID)



## Build a PET RVM system with Lalaloop ID on label or bottle

With lalaloop ID and RVM, PET circulation system can be operated easily. Amount of collected PET can be monitored.

Label example



# The biggest collection device operation and partnership to lead a market

→ 53+ city



서울특별시 부산광역시

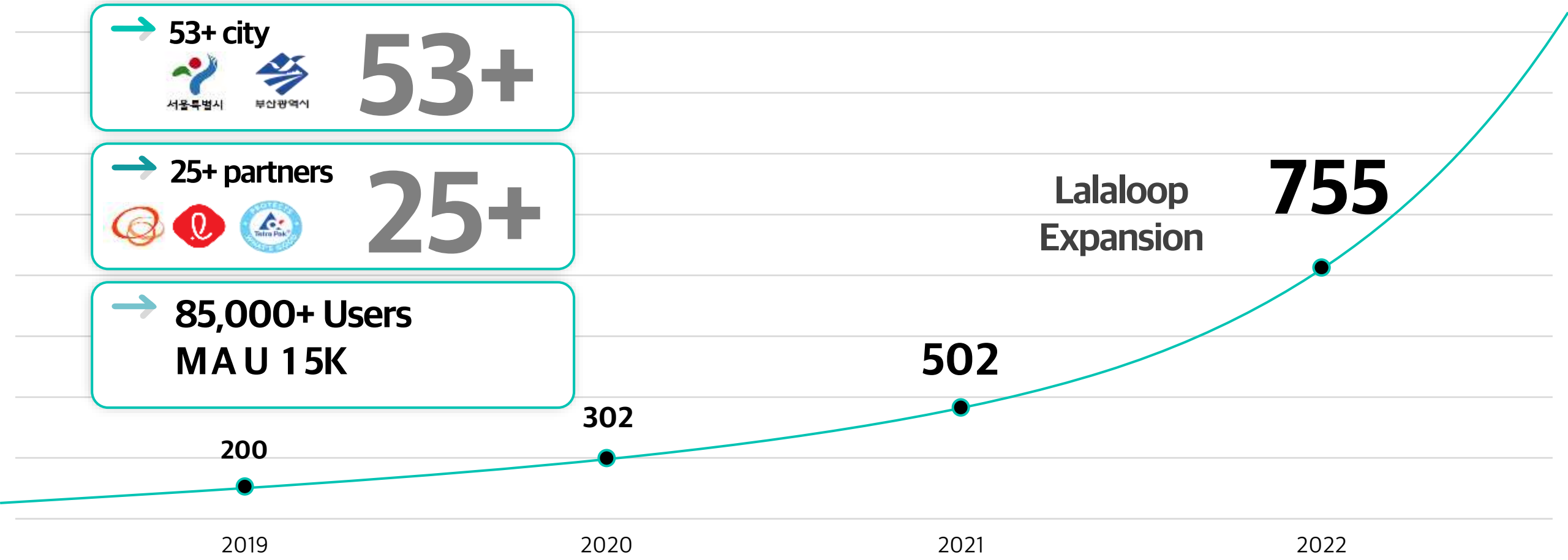
**53+**

→ 25+ partners



**25+**

→ 85,000+ Users  
MAU 15K



# Recycling and reuse to reduce waste and carbon footprint

## Recycling/Reuse rate increase

Recycling **68%**

Reusables Return **80%**

Single-use cup reduction **57%**



**Reduce Waste  
Reduce Carbon**

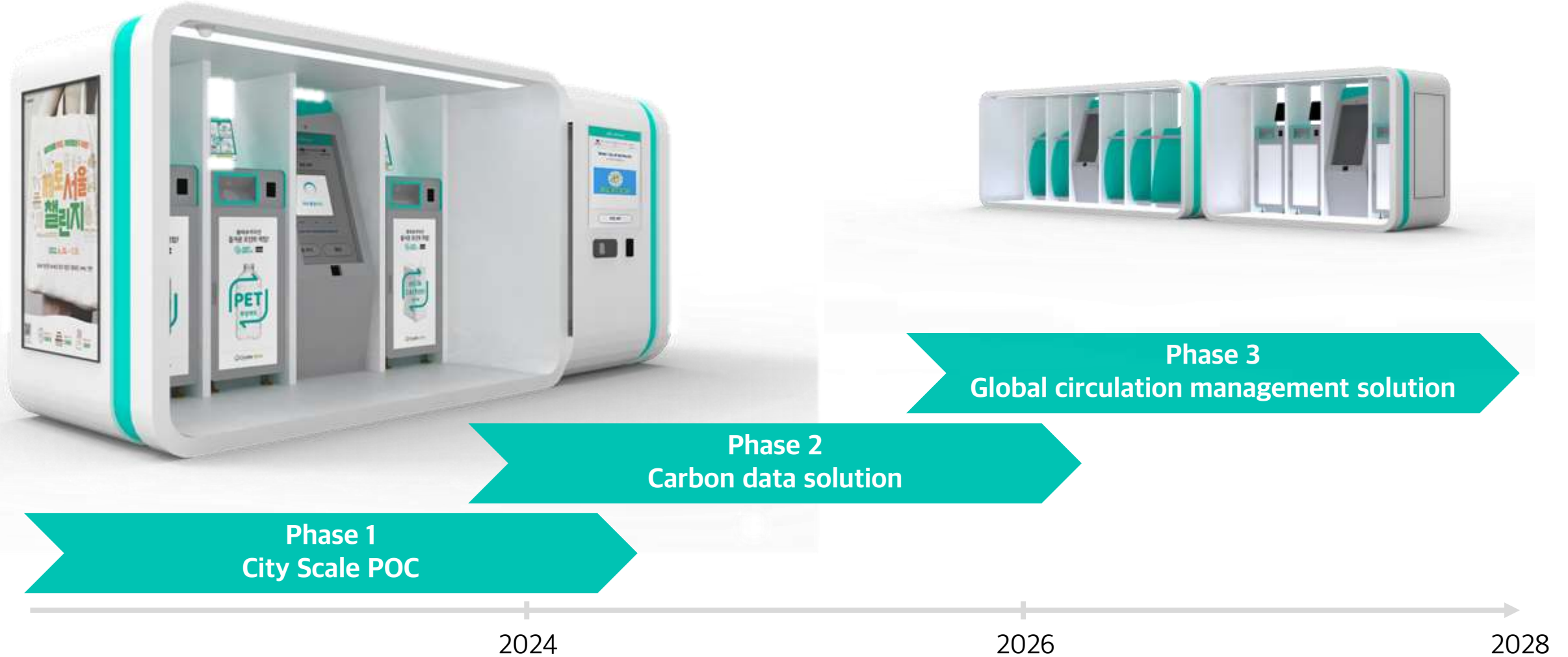
## Make daily Recycling/Reuse

**45** Monthly action per user

**15K** Monthly active user  
Registered user

**63K** Monthly container return  
Number of Reusable cup return

# City scale service for circular economy for Global smart city



# Professional team with IT based circular economy and smart city service



→ 배태관 CEO

R&D, 기획, 설계  
(주)imt / 선임연구원



→ 염주용 CSO

Abu Dhabi Sales  
(주)Sinheung



→ Eric Michel CTO

전자공학박사  
경희대학교 대학원



33 members, 10 teams



# THANK YOU

We assist the people  
who save our planet

Oyster able

2023 Jeju Plus International Environment Forum

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A photograph of a young girl with dark hair and bangs, wearing a light purple shirt and brown overalls. She is smiling and looking slightly to the right. The background is a brick wall.

우리 아이가 살아갈 지구니까  
수고로워도 바르게 하자는 생각