ACI Nature Store | www.inaturestore.com

SMART Waste Collection System

Nature Store

ACI Avermann

Hi! My name is **Begcomesee**, the Polar Bear. Welcome to the **Nature Store**!

In **Nature Store**, we sell Clean Air,
Blue Sky, Brilliant Sunshine, and Green Nature.
Buy the Clean and Safe Environment.

From my experience I have learned that we need to save the Earth and the Arctic by recycling the waste.
I opened up Nature Store where we can separate and treat the waste for recycling.
In Nature Store, I manage your wastes in smart ways.

Welcome to Nature Store and meet Mr. Begcomesee, the Polar Bear.

By visiting Nature Store, we can make the clean and safe environment
where the human and other animals live together.
So I can go back to my home at the Arctic.

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ACI SMART Waste Collection System

Nature Store

No need to make the plastic bags to collect the waste

No need to restrict the waste discharging hours

No need to have the waiting until the waste bag is filled

Nature Store will open the new era of nature friendly waste collection

Nature Store iTainer is the most advanced automatic waste compacting container equipped with IoT/ICT technology. The computer system will control the operation and the operator will solve any problem remotely through the internet connection.

iTainer

Easy Waste Discharging From Dumping to Payment ▸

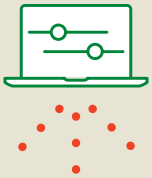
Payment System
(Credit Card, RF Card)

Weighing Waste

Compacting for
Volume Reduction

Odor generation controlled
by Ozone

AS Service Engineer



Safety &
Maintenance

/ IoT based Waste Collection System /

Error

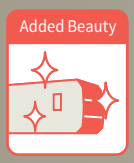
Features & Advantages

- Less collection workers and trucks by 80%
- No new plastic bag for waste
- Less traffic burden and CO_2 emission

Alarm on
System

- Collecting fully loaded containers only
- Compacting fluffy waste bags upto 80%
- Easy to hookup type container

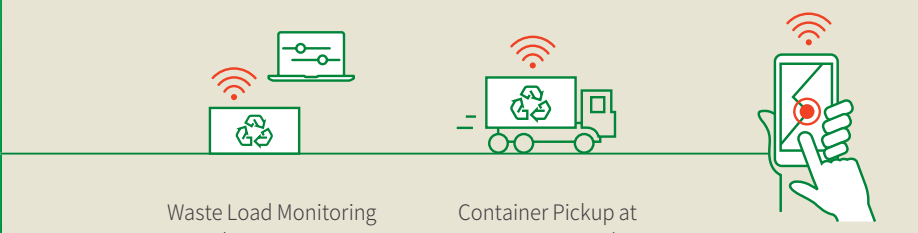
Remote
Maintenance Support



- No waste dispersion, No odor, no vermin
- No waste bag breakup by animals

Dispatch
Engineer

The Most Efficient Waste Collection System ▸



Waste Load Monitoring
by Internet

Container Pickup at
Over 80% Load

Waste Collection Truck
Monitoring

No Stop
Operation

Nature Store

| for Municipal Solid Waste |

iTainer-W

Nature Store iTainer-W weighs municipal solid waste and charges cost. Payment by Credit Card and RF Card.

Applications

[Residential Area / Market / Apartment Complex / Festival Area and big Complex]

Process

1 Payment System (Credit Card, RF Card)

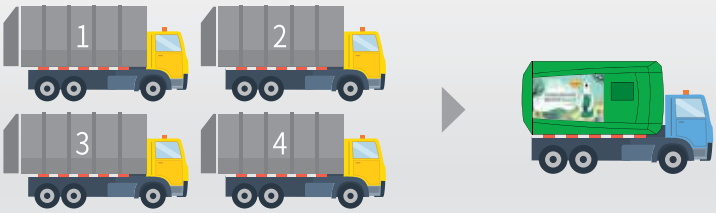
2 Waste Dumping on Scale

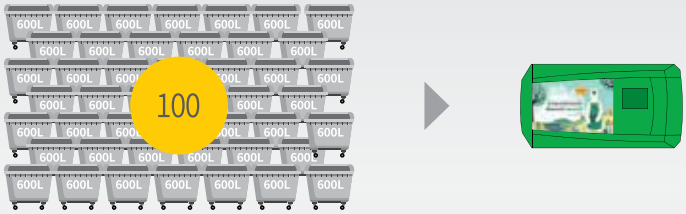
3 Weighing

4 Payment Approval

Benefits

- Fuel Saving
- Reduced CO2
- Clean City
- Easy Payment



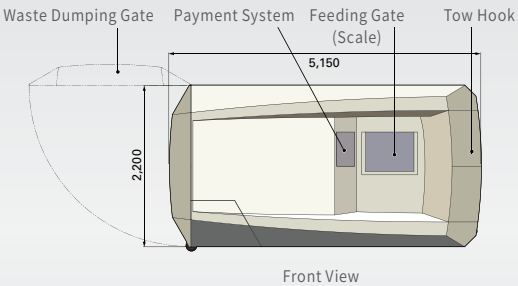


5 Container Pickup at Over 80% Load

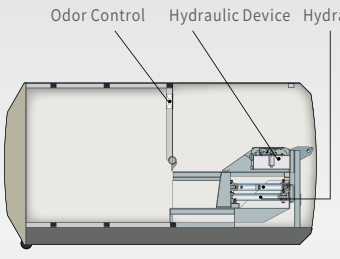
1 Fire Detector
2 Campaign AD
3 Smart Control
4 Weighing Scale
5 Odor Control
6 Internet/GPS
7 Dumping Gate
8 Compacting Unit
9 Human Sensor
10 Payment System

iTainer-W	
Capacity	10㎥
Pressing Force	200kN
Weighing Scale	0.05 ~ 75kg
Power Consumption	5.5kW / Φ3 x 380V x 60Hz
Ozone Production	500mg/hr
Dimensions	W2,270 x L5,150 x H2,200
Control System	PLC and PC with Internet

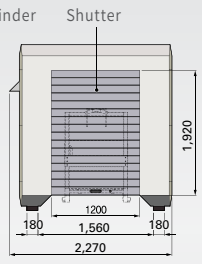
Technical Spec



Front View



Back/Inside



Side View

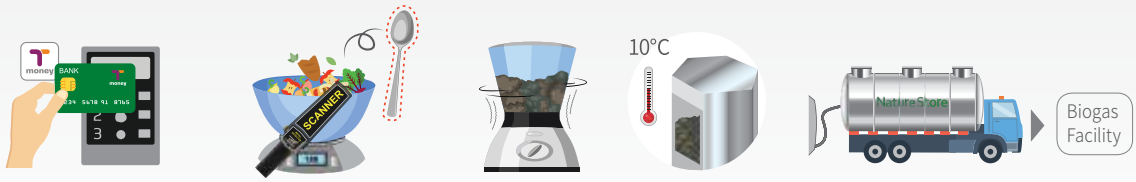
NatureStore
| for Food Waste |
iTainer-B

Nature Store iTainer-B weighs food waste and charges cost.
Payment by Credit Card and RF Card.

Applications

[Residential Area / Apartment Complex / Shopping Center / Restaurant Area]

Process



1 Payment System (Credit Card, RF Card)
2 Weighing and Metal Detection
3 Waste Grinding
4 Cooling at 10°C
5 Transportation by Suction Truck

Benefits

- Fuel Saving
- Reduced CO_2
- Clean City
- Easy Payment

Description

1. Cooling System
2. Campain AD
3. Odor Control
4. Fire Sensor
5. Metal Detector
6. Auto Washing
7. Grinding/Pumping
8. Internet/GPS
9. Smart Control
10. Payment System
11. Weighing Scale

Nature Store
| for Recycle Waste |
iTainer - R

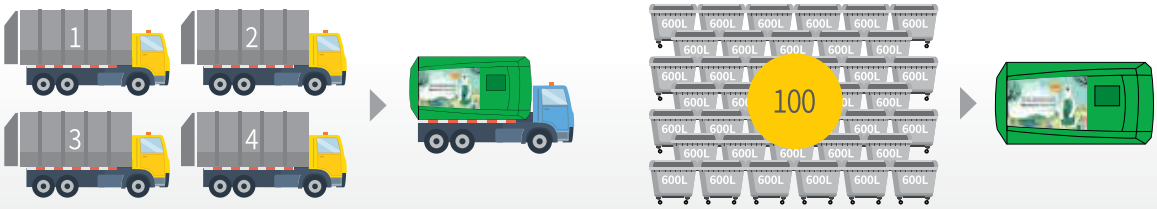
Nature Store iTainer-R recognizes the face of the waste discharger and prints the QR or Bar code. The person should put the code on the recycle waste bag. The bag will be surveyed randomly at the sorting facility. Negligent recyclable discharger will be limited for future access.

Applications

[Residential Area / Market / Apartment Complex / Festival Area]

Process

Benefits



Fuel Saving

Reduced CO_2

Clean City

Recycling

Description

1. Campaign AD
2. Odor Control
3. Fire Sensor
4. QR Code Reader
5. Smart Control
6. Compacting Unit
7. Internet/GPS
8. Face Recognition Camera
9. Human Sensor
10. QR Code Printer

Nature Store

the SMART Fill Level monitoring sensor

iNetbin

Nature Store iNetbin is Fill Level sensor equipped at the Top of Waste Bin. It provides timely warnings when they are full, permitting optimized route planning for collections which reduces the waste collection costs by 30-40%.
It notices fire and flip-over.

Applications

[Residential Area / Market / Apartment Complex / Park / Festival Area]

Features & Advantages

Cost Reduction

- Longer lifetime and less maintenance cost for waste collection truck
- Illegal waste collection and waste bin breakage monitoring

Operation Efficiency

- Empty the bins needed emptying only
- Avoid ugly overflowing bins
- Increase the capacity in rapid fill areas

Monitor and Report

- Analyze existing collection routes against actual fill level
- Gather the data for new collection improvement schemes
- Identify trends in bin filling behaviors

Benefits

- Fuel Saving
- Reduced CO_2
- Clean City
- Less Traffic

Model : 600L

Nature Store

to Save the collection space

iUnderground

Nature Store iUnderground is the space creator for iTainer and iNetbin when there is no space for waste collection.
With iUnderground, we can keep the iTainer and waste bins under the ground. The feeding chutes are equipped with scale and payment system. Keeping the waste under the ground gives the benefit of less odor and dust.

Applications

[Big Residential Complex / Heavily Commercial Area / Residential and Commercial Complex / City Center]

Features & Advantages

Space Creation

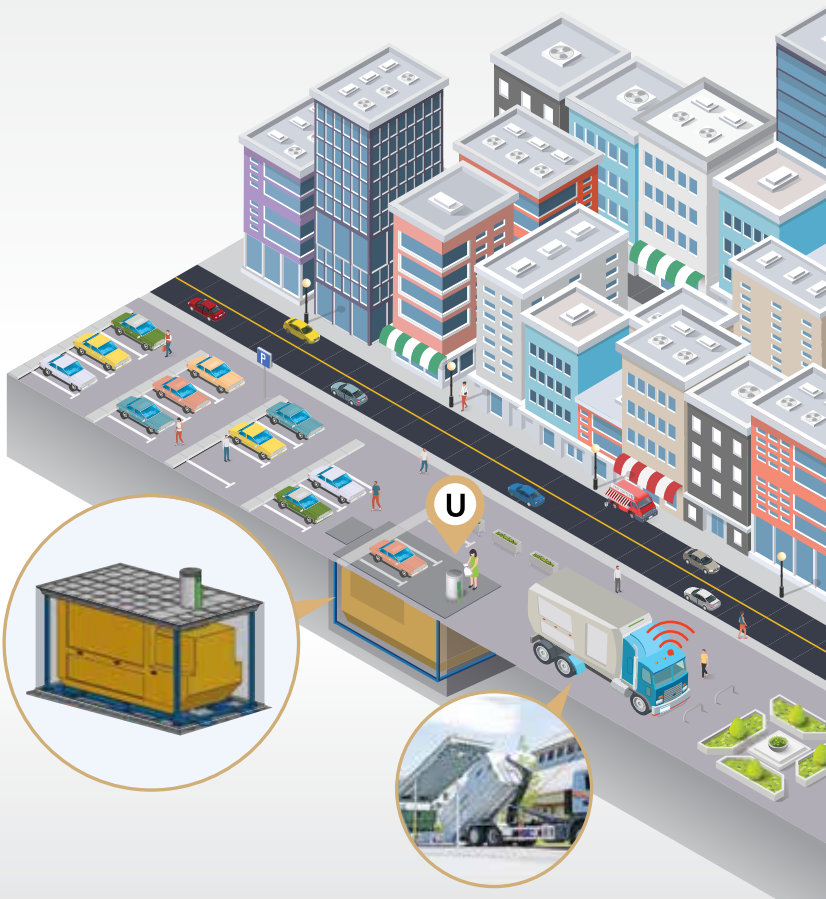
- Under public park
- Under parking lot

High Efficiency

- Utilizing Overground
- Reduced odor generation

Convenience

- One stop service for all types of wastes
- Easy system from payment to waste dumping



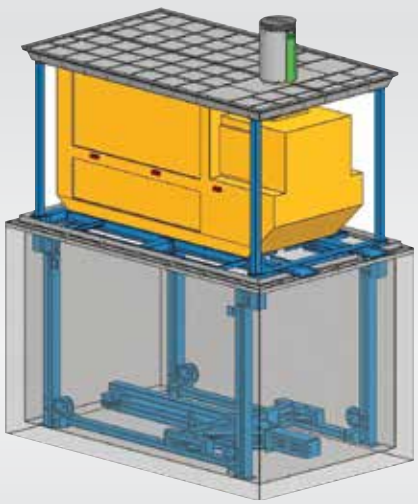
Benefits

Less Fuel

Less CO_2

Less Space

Pretty City



Nature Store

Solar Powered Compacting Bin

iSolarbin

Nature Store iSolarbin is smart waste compacting bin with solar panel and fill level sensor for street, beach and stores.
Centralized Control system will monitor the operation status and fill level through Internet by real time.
iSolarbin compacts waste with Hydraulic Powered vertical press system to increase the waste collection capacity.
In the selfpowered equipment, we can add the smart city solutions.

Applications

[Park / Street / Fast Food Restaurant / Department Store / Beach / Festival Area / Campus]

Features & Advantages

Cleaner Space

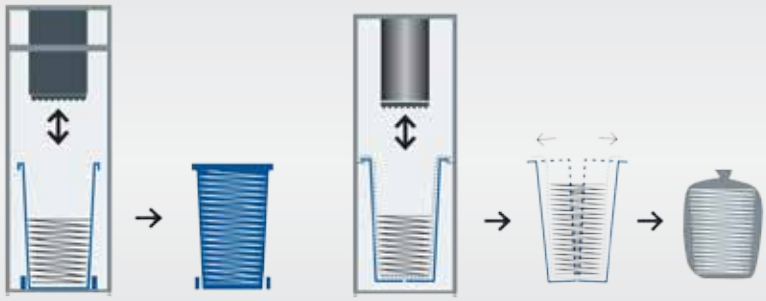
- Eliminating overflow and critter access
- Adapted designs for various locations
- Advertisement applicable

High Efficiency

- IoT based fill level monitoring and compacting
- Self-powered by Solar Panel
- Upto 80% of collection work reduction
- Smaller work forces and truck fleet
- Reduced fuel consumption and CO_2 emission

Convenience

- Automatic vertical compaction
- Easy to relocate



240L Waste BIN

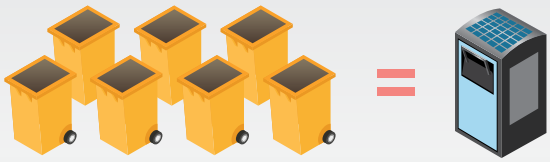
Plastic Bag

Before

After

Benefits

- Less Fuel
- Less CO_2
- Clean City
- Recycling



Nature Store

Waste Collection Management System

iEcopro C

Nature Store iEcopro C is the system server which controls and operates iTainer, iNetbin, iUnderground, iSolarbin though the Internet with IoT/ICT technology. With the system, we can monitor the collection amount, waste tariff collection, waste generation amount and pattern by the geographic location and the status of the equipments. iEcopro C also connects the waste collection trucks, AS service engineers and the waste discharging customers. iEcopro C is the best solution for the most efficient waste collection management.

N : iNetbin
T : iTainer
S : iSolarbin
U : iUnderground
NS : Nature Store

Features & Advantages

Total Management in One Server

- Easy to control with full overview
- Reliable database for future planning
- Most efficient solution by connecting the server to customers by APP.

High Efficiency

- Small waste management Fleet
- Flexible and reliable management from analyzed data
- Dupming fee collection guaranteed
- Remote maintenance support system

Monitoring
Waste Collection Truck Driver

Benefits

Smart City

Less CO_2

Pretty City

Clean City

Central Control System
(Administrator)
ACI

www.inaturestore.com
NatureStore

“Mr. Begcomesee, the Polar Bear” has the meaning that the Polar Bear is BEGging you to COME and SEE the Arctic. “the North Pole” has been the most devastated by the Global Warming.

ACI

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