



# Adding Value to Discarded Waste Plastics

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# Introduction

## Introduction

### "Adding Value to Discarded Waste Plastics."

Jushin Eco Solution Co., Ltd. is conducting various businesses for resource circulation of waste plastics.

We offer an innovative solution to address the issue of waste plastics, one of the most severe threats to the global environment. By developing and distributing waste plastic collection devices, we produce upcycled products from the collected waste plastics. Through this solution, we can reduce over 50% of the waste plastics that are currently incinerated or landfilled.

We also conduct various environmental education programs. We have created a 'Resource Recycling Camp' to invite children and educate them by allowing them to see firsthand the process of recycling plastic waste.

### Patent holder for collection-related technologies

patent number 10-2218846 : A device for cutting the bands off PET bottle caps



### Patent holder for upcycling technologies

patent number 10-1804550 : Fluid supply device and injection molding apparatus utilizing the same



**Recycling system + Upcycling system**  
**Jushin is the only company capable of implementing both simultaneously.**

# History

# History

## Awards

- 2018** Grand Prize at the Ulsan Creative Economy Innovation Center - Hyundai Heavy Industries Competition
- 2019** Minister of Oceans and Fisheries Award at the Marine and Fisheries Startup Contest



## Recognitions

- 2019** Selected as a Top Company in the Small and Medium Business Administration's Re-challenge Success Package
- 2020** Recognized as an Outstanding Tech Company by the Ministry of Oceans and Fisheries
- 2021** Chosen for the Small Environmental Enterprise Commercialization Support Program by the Korea Environmental Industry & Technology Institute
- 2023** Selected as a Top Company in the Startup Leap Package

## Investments

- Secured seed investment from the Gangwon Creative Economy Innovation Center

## Patents

- Plastic Bottle Sorting Device No. 10-2020-0052164
- Plastic Bottle Recycling Device No. 10-2022-0013591
- International: Plastic Bottle Recycling Device PCT/KR2022/002760
- Image Data Augmentation and Hybrid Learning Method for Plastic Bottle Recycling No. 10-2022-0063926

# 2018-2024

## 2018



- Established Shin Global Tech Co., Ltd.
- Selected as a one-person creation support company by the Ministry of SMEs and Startups
- Chosen for the Ministry of SMEs and Startups' Re-Challenge Success Package
- Won the Grand Prize in the Ulsan Creative Economy Innovation Center-Hyundai Heavy Industries competition
- Designated as a one-person creation support company by Hyundai Heavy Industries
- Selected for prototype production support by Hyundai Heavy Industries

## 2019



- Selected for the Gangwon Creative Economy Innovation Center Startup Challenge
- Recognized as the Best Company in the Ministry of SMEs and Startups' Re-Challenge Success Package
- Received the Minister of Oceans and Fisheries Award at the Marine and Fisheries Startup Contest
- Chosen for the JDC Nanggeure 2nd Accelerator Team

## 2020



- Selected as an Innovative Startup by the Korea Technology Finance Corporation
- Secured seed investment from the Gangwon Creative Economy Innovation Center
- Registered as a venture company
- Selected for BM Development Project by the Korea Design Promotion Institute
- Recognized as an Excellent Tech Company by the Ministry of Oceans and Fisheries

## 2021



- Selected for the Small Environmental Business Commercialization Support Program by the Korea Environmental Industry and Technology Institute
- Participated in the Upcycling Experience Booth at JEJU CAFESTA, hosted by the Jeju Provincial Office and the Sustainable Development Council
- Participated in the World Environment Day Upcycling Experience Booth

## 2022



- Selected for the Upcycling Support Project by the Korea Environmental Association
- Participated in the Korea Nara Market Expo
- Chosen for the Leap Business Support Project by the Gangwon Creative Economy Innovation Center
- Selected for the Startup Leap Project by Gangwon University
- Established a branch & research lab at the Seoul Startup Hub
- Participated in the RETECH Environmental Exhibition
- Delivered Petro Premium products to Goseong County, Gangwon Province

## 2023



- Changed corporate name to Shin Eco Solution Co., Ltd.
- Selected for the Design Business Infrastructure Project by the Gangwon Design Promotion Institute
- Invited to the Gangwon World Forest Expo with Petro Singing
- Opened the Waste Plastic Upcycling Experience Education Center
- Recognized as the Best Company in the Startup Leap Package

## 2024



- Selected for the Global Supply Chain Support Project by the Environmental Industry Technology Institute
- Selected for the Local Support Project by Hallym University
- Chosen for the IP Commercialization Support Project by the Gangwon Economic Promotion Agency
- Delivered NURUMI to Hoengseong County and Jeongseon County in Gangwon Province

# Business Model

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# Key Business Area

Jushin Eco Solution Co., Ltd. is conducting various businesses for resource circulation of waste plastics.

## Key Business Area

### Collection Plant



Jushin Eco Solution has developed an efficient waste plastic collection system and is installing it in apartment complexes and large facilities. NURUMI, AI screening system reduces transportation costs by collecting and compressing transparent plastic bottles unattended, and uses a method of accumulating cash points on cash-based transportation cards to encourage residents to participate.

### Upcycling System



We have upcycling technology to recreate collected waste plastics into high value-added products. Jushin Eco Solution Co., Ltd.'s proprietary nitrogen pressurizer enables waste plastic to be recycled without a drying process, maximizing cost and efficiency. Through this, it produces various upcycling products and operates at a cost of 1/10 compared to the existing recycling process.

### Product Development and Sales



Jushin Eco Solution is developing various upcycling products using marine PET and HDPE PP bottle caps. For example, we created a camping table using 200 bottle caps and collaborated with Coca-Cola, a global company. In addition, we are developing our own products for 'sustainable upcycling' and launched the upcycling brand 'Yeong-Yeong' means ever and ever.

### Operation of Environmental Education Program



We run a waste plastic resource circulation education program to provide environmental education. This program works with schools and communities to raise awareness of environmental issues and contribute to promoting practical resource circulation activities. Through this, we are educating future generations about the importance of environmental protection.



3-2

Resource Circulation Unit

# NURUMI

## Can & Pet Compressor



The closest resource circulation helper to us, NURUMI.

# NURIMI Can & Pet Compressor



**PRODUCT INFO**

**Size**  
: 1200 \* 920 \* 1780mm

**Weight**  
: 250kg


**Power**  
: 220V

**Collection Capacity**  
: 7.5kg 500 bottles of 500ml PET /  
1,100 cans of 180ml


**The closest resource circulation helper to us, NURUMI.**

NURUMI is an unmanned collection machine for transparent PET bottles, installed in residential complexes to collect and compress transparent PET bottles generated from daily life. Jushin Eco Solution's NURUMI features an AI sorting system that separates resources and ejects those that are not suitable e.g., bottles with labels or caps still attached. Additionally, it is designed to encourage public participation by allowing cash-equivalent points to be credited to transit cards.


**1 Apartment, School, Canteen, etc**

 It can be installed in any place where cans and plastic bottles are discharged, such as apartments, school cafeterias, and bus stops.


**2 Collect Only Clean Cans and PETs**

 NURUMI features an AI sorting system that separates resources and ejects those that are not suitable e.g., bottles with labels or caps still attached.

**3 21" Large Touch Screen Monitor**

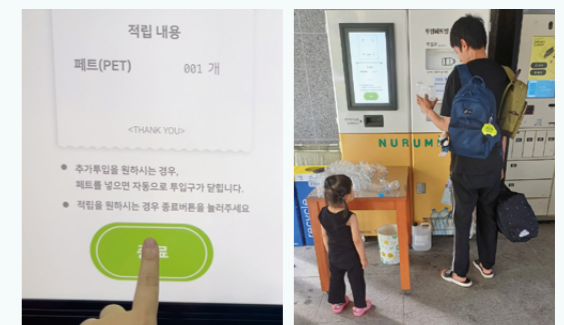
 It is equipped with a 21-inch large touch screen monitor that can easily circulate resources for men and women of all ages.

**4 Cash-Bee Cash reserve**

 Cash is accumulated immediately according to the number of money spent on transportation cards, not the point accumulation method.

**USER REVIEWS** For the first time in Korea, we have entered an apartment complex!

I've used various cans and PET bottle resource circulation devices in the meantime, but the method of accumulating points takes a lot of time and has been inconvenient in various ways, such as exposing personal information. However, this NURUMI can and PET compression device is convenient and good because it is accumulated in cash as many times as I put into the Cashbee transportation card without having to sign up for a membership.





# Yeong-Yeong

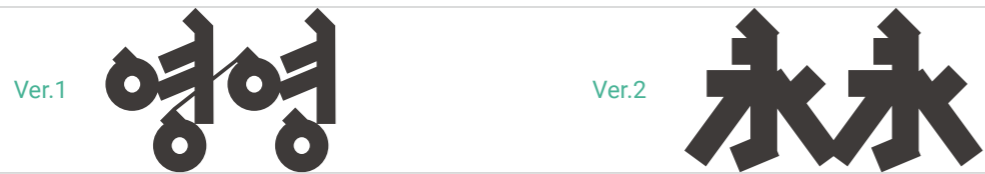
We are Yeong-Yeong 永永; forever and ever, a brand that creates the eternal cycle of waste plastics. We aim for sustainability and create various upcycled products.

It is challenging to create products using 100% waste plastic materials without mixing in virgin plastics due to limitations in color and shape.

However, Yeong-Yeong strives to create the most minimalistic and beautiful value within these constraints, aligning with our brand value of 'Use it forever' and building a virtuous cycle that saves our planet and environment.

Currently, We are utilizing its proprietary technology to create upcycled products from even the most challenging resources, such as ocean waste plastics. We can crush waste plastics immediately after collection, without the need for washing or drying processes, turning them into flake raw materials. These flake materials are then transformed into a variety of upcycled products through the injection molding process.

## Logo



## Our Products made by



Marine Plastic Waste



Bottle Caps



PET Waste

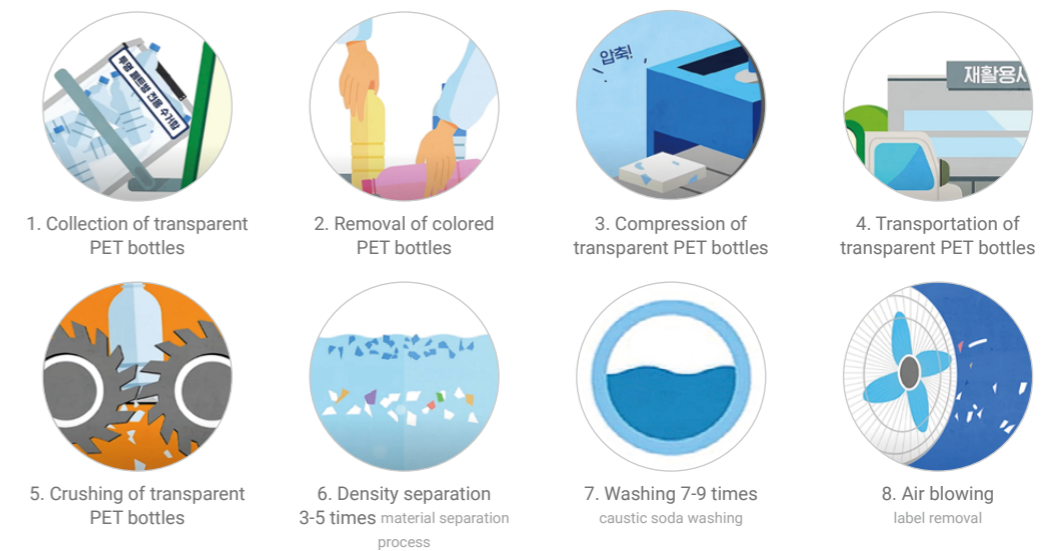


Electronic Waste

## Jushin Upcycling Process



## Basic Upcycling Process



# Upcycled Product Categories

Household Items / Fashion Items / Camping Gear / Sports Items

## Household Items

Planters, Plogging Grippers, Toothpaste Squeezer made from waste plastic PP, ABS etc



## Fashion Items

Five Types of Endangered Animal Keyrings Made from Bottle Caps.



We welcome collaboration!

If you are currently planning upcycling products, feel free to propose a collaboration with us at any time. We have already engaged in meaningful collaborations with global companies such as Coca-Cola and Black Yak, as well as local governments.

## Camping Gear

Camping Side table: we created a camping table using 200 bottle caps and collaborated with Coca-Cola, a global company.



## Sports Items

Golf Accessories Made from Ocean Waste Plastics: Long Tees, Short Tees Marine debris PET, Tee Cases Recycled PET.



# Explore Our Key Products

## Mape Teaches Korean!

This smart merchandise takes the form of a traditional Korean Mapae Horse pass, with an embedded NFC card inside. When tapped with an NFC-enabled smartphone, it will teach you useful Korean greetings that can be used anywhere. This unique and culturally meaningful item makes a perfect gift for foreign friends who have a passion for Korea.

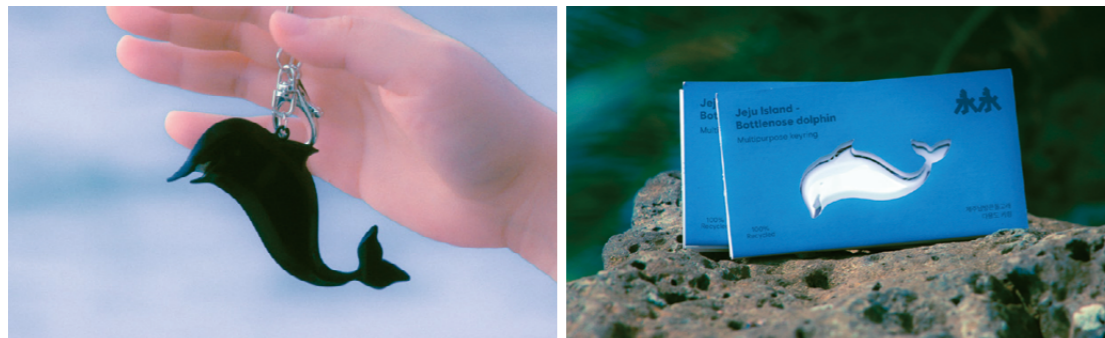
100% Recycled ABS discarded electronic products



## Jeju Island Indo-Pacific Bottlenose Dolphin Multipurpose Keychain

It was created from discarded electronic products to protect the endangered Jeju Island Indo-Pacific Bottlenose Dolphin, which is threatened by marine debris. The pointed mouth can be used to remove shipping labels.

100% Recycled ABS discarded electronic products



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