



CASE STUDY
Segment: Smart City
Market: South Korea
In operation since: 2023

Project: Heukseok Xi

About the project

The Heukseok New Town Zone 3 redevelopment project has resulted in the creation of Heukseok Xi, a state-of-the-art residential complex comprising 26 buildings. These structures range from five underground levels to 20 above-ground floors, accommodating a total of 1,772 households. This large-scale development is designed to offer premium living standards while integrating modern technological solutions to improve urban convenience and sustainability.

One of the most notable features of this complex is the integration of the Envac Automated Waste Collection System, which revolutionises waste disposal by eliminating the need for traditional waste bins. The system effectively handles

both food waste and general waste, providing residents with a seamless waste management experience. Strategically placed outdoor waste inlets allow for effortless disposal, while each household is provided with an access card that operates within a Pay-As-You-Throw (PAYT) pricing model. This ensures fair and efficient waste management, directly linking costs to individual usage.

With its advanced infrastructure, eco-friendly innovations, and superior convenience, Heukseok Xi is setting a new benchmark for contemporary urban living in South Korea.

Key features and benefits

- Smart and sustainable waste management

Automated waste collection system: Heukseok Xi is equipped with the Envac AWCS, significantly reducing the reliance on conventional waste disposal methods. The system improves hygiene, eliminates unpleasant odours, and minimises the risk of pest infestations.

Smart PAYT system: The PAYT model ensures cost-effective waste disposal by charging residents based on their actual waste generation, promoting responsible waste management.

Reduced carbon footprint: Implementing Envac's system significantly decreases the need for garbage collection trucks, lowering carbon emissions and contributing to South Korea's broader zero-waste vision.

- Prime location and natural connectivity

Access to green spaces:
Additionally, the elimination of





waste collection trucks and service vehicles through the Automated Waste Collection System frees up valuable space within the complex, allowing for more green areas and recreational spaces for residents to enjoy. Residents benefit from the lush surroundings of Seodal Mountain Arboretum, offering a tranquil retreat amidst urban living.

Proximity to natural landscapes: The nearby Han River provides an ideal setting for recreational activities such as jogging, cycling, and leisurely walks, enhancing residents' overall quality of life.

- Luxury living with smart and efficient features

Modern architecture & high-quality finishes: Heukseok Xi showcases a sleek and elegant design, incorporating premium materials that reflect luxury and sustainability.

Integrated smart systems: Advanced home automation and security systems provide residents with enhanced safety, energy efficiency, and convenience.

Optimised urban space: The Envac system eliminates the need for large waste storage areas and frequent waste collection, resulting in cleaner surroundings and additional space for amenities such as fitness centres, swimming pools, and communal lounges.

Impact and vision

The Heukseok Xi project exemplifies the seamless fusion of luxury living and sustainable urban development. By integrating cutting-edge waste management technology with premium residential features, the complex elevates the everyday lives of its residents and contributes to South Korea's long-term sustainability goals. As urban areas continue to evolve, Heukseok Xi stands as a model for future developments, demonstrating how smart infrastructure can create cleaner, greener, and more efficient living environments.

"Completing the Heukseok Xi project marks a new standard in clean and sustainable living. Envac's automated waste collection system seamlessly boosts hygiene, efficiency, and eco-friendliness, reducing reliance on traditional methods while minimising environmental impact. This innovation improves urban living by ensuring cleaner surroundings, greater convenience, and smarter waste management, setting a precedent for future developments."

- Jo Kyung Il, Project Manager,
Envac Korea

3 tonnes

waste/daily
in two fractions, general
and food waste

4,1 km

pipe network
with a 500 mm diameter

46

waste inlets
located outdoors

90%

lower carbon emission
from garbage collection
trucks

1722

households connected
with the stationary
vacuum system

PAYT

Pay-As-You-Throw

with unique access cards
for all residents