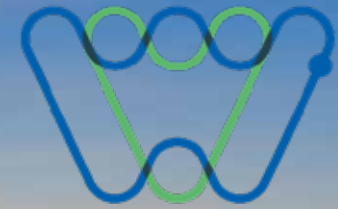# Connect & Control

Leading the Circular Revolution in Waste Management

waste vision

Empowering Smart Cities with Intelligent Waste Solutions

For generations on end, waste has been discarded; it has been put away as useless junk. But waste products which were not worth a penny in the past, are now considered precious resources.

Waste Vision is the leader in this circular revolution by encouraging councils, municipalities, civilians and businesses to separate waste, and to collect them as sustainably as possible.

This is how we move towards a society in which waste is not the end, but the beginning of something beautiful.

About Waste Vision

Waste Vision is at the forefront of the circular revolution, helping municipalities, citizens, and businesses turn waste into valuable resources.

Our beliefs

We believe that waste can make the world a better place. That is why we lead the way in the circular revolution.

We optimise opportunities, offered by new technologies, and support municipalities, companies and citizens with the transition of waste to resource.

Established in the Netherlands with a reach throughout the world we provide the best sensing technology for waste management challenges.

Working together

We believe waste is not the end, but the beginning of something beautiful.

As a market leader in IoT, SaaS, and Services for waste management, we operate in 19 countries, with over 90,000 systems deployed.

Doing Well

Corporate social responsibility is hard work, and we love it. Through our constant commitment to exceed expectations in term sof safety, quality ans sustainability, we have several certificates. ISO 9001,ISO 14001,ISO 27001 VCA**,TÜV Product certificate EN 13071-1,2 & 3

With 120 employees and more than 25 years of experience

All our products are designed and produced in-house, sourced from EU suppliers. Waste Vision is ISO27001, ISO9001, and ISO14001 certified, ensuring the highest standards in security, quality, and sustainability. Further, our products are built under the TÜV product certificates EN 13071-1, 2 & 3.

Our **four** pillars:
- Improved **Waste Separation,**
- Optimised **Logistics**,
- Sustainable **Asset Management**, and
- **Exceptional Services**,
  drive our commitment to excellence.

Our vision of circular waste collection is universal and not limited by borders. We contribute to clean streets and well-separated waste in the Netherlands, Germany, Switzerland, Belgium, United Kingdom, Lithuania, Czech Republic, Portugal, France, Denmark, Norway, Sweden, Iceland and Canada etc.

Our presence in Europe.

About Waste Vision

Increased sustainability through data

We are fully committed to the latest information technology and provide digital insight into the world of waste.

Using our data, you can monitor and predict consumer behaviour, collections, maintenance, cleaning and replacement needs increasingly better.

This allows us to take proactive measures and work together smarter, more effectively and more efficiently.

Make your containers smart

Waste Vision constantly innovates and applies technology to make processes and products more efficient and sustainable.

From smart sensors to NFC-chips and from smartphone-apps to a data-driven software system; our solutions are plug & play, user-friendly and easy to scale.

Improved waste separation

With years of experience and our own development and production department in The Netherlands, Waste Vision can come up with even smarter solutions to benefit improved waste separation.

The ECOS Fillguard level sensor

Content

Improved Waste Separation

Improved Waste Separation

Improved Waste Separation by influencing behaviour.

Our smart access control systems are a solution for reducing the amount of residual waste and improving resource purity - such as organics, textiles, packaging, paper, diapers and glass.

Users can open containers with a card, badge, phone, or smartwatch, receiving real-time feedback on deposits and fill levels.

Our robust technology features intelligent readers and locks, solar-powered with battery life up to 10 years, designed for extreme conditions. We motivate users, support Pay As You Throw (PAYT), and comply with EU guidelines. Proven results include achievements with leading municipalities in various countries in Europe.

Efficiency

Awareness

Less waste

Insights

More materials

Access control

Improved waste separation through the use of access control systems

Waste Vision offers access control systems which can be mounted on all types of waste containers, both above- and underground.

With years of experience and our own development and production department in The Netherlands, Waste Vision can come up with even smarter solutions to benefit improved waste separation.

Smarter access, cleaner results

Waste Vision makes waste separation easy and effective with secure, user-friendly access solutions. Citizens can only deposit waste where they are authorized, ensuring cleaner recycling streams and greater accountability.

Our technology is already trusted by over 1 million unique cards and tags, with fast readability, Mifare support, and even smartphone access.
About 500000 unique cardnumbers per system are supported. Every solution is designed for convenience, safety, and durability - fitting all container types and offering different flexible

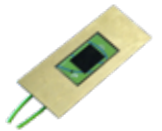Wireless connectivity with smartphone and tablets

locking options; flexible PAYT-proof locking options, including:
ECOS Smartlock, ECOS Lockinterface or Spinlock
Seamless integration is guaranteed using STOSAG, API's or address management.

With Waste Vision, municipalities gain smarter control - and citizens enjoy effortless waste disposal.

Optimised reader

The smart reader is equipped with the latest network communication technology. Using international roaming, our reader automatically chooses the strongest available network, so that the system keeps itself connected and operational continuously. It is accessed remotely for Over The Air system updates.

Durable Locks

The sturdy electronic locks are designed with a smart system. They are produced after 25 years of practical experience in the most extreme circumstances. Different versions of our locks are available, to fit every type of container and every type of opening. This information is sent immediately to the Waste Vision suite software system.

Smart Detection

The access system detects situations like opening jams or when the container has been emptied. This information is sent immediately to the Waste Vision suite software system.

Designed to work autonomously

Our access and fill level systems consume very little power. The containers are equipped with solar cells, to provide power to the battery. The batteries have a long lifespan (10+ year), 99% recyclable, safe, lithium free and include status monitoring.
Are equipped with solarcells, can use the ECOS Solarpowerpack with integrated MPPT solarcharger for status monitoring. Its battery has a long lifespan (10+ years), is 99% recyclable, non-explosive lithium-free battery technology. Containers without solarcells, can use a non rechargable battery with a lifespan of 7+ years.

Improved waste separation through the use of access control systems

A Pay As You Throw (PAYT) system
is a solution for reducing the amount of residual waste, to collect cleaner resources (such as organic waste, textiles, household packaging waste, paper and diapers), and to influence your users' behaviour.

The system encourage households to separate waste more effectively by linking waste fees to the amount of residual waste generated. Studies show that after implementing PAYT, the volume of residual waste per household drops significantly, along with overall waste management costs. (See figure1)

Waste Vision supports PAYT through smart technologies like access control on collection containers. These systems track individual usage and enable precise billing, motivating users to sort waste properly. For containers, access control ensures only authorized users can deposit waste, reducing contamination and improving recycling rates. For visitors and tourists you can use an app to pay directly and open the container.
By combining PAYT with user-friendly infrastructure and digital monitoring, municipalities can achieve cleaner streets, lower CO_2 emissions, and fairer cost distribution.
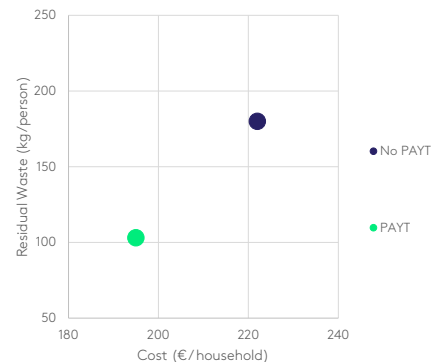See the different cost per category of waste.
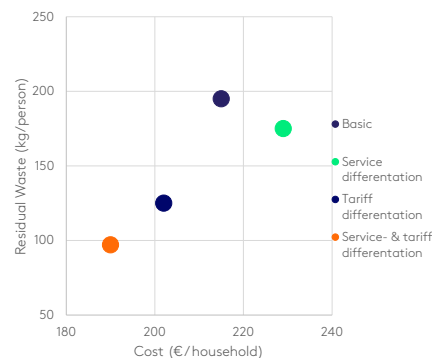(Figure: 2)

Figure: 1 PAYT versus No PAYT in the Netherlands.

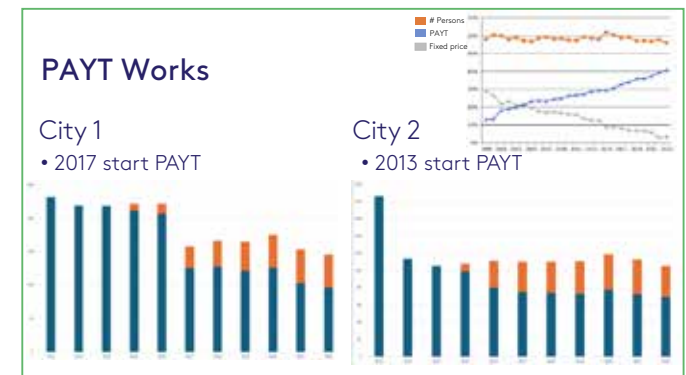Figure: 2 The cost for Residual Waste in the Netherlands.

Figure:3 The effects when PAYT is started, the effect is more awareness, less waste.
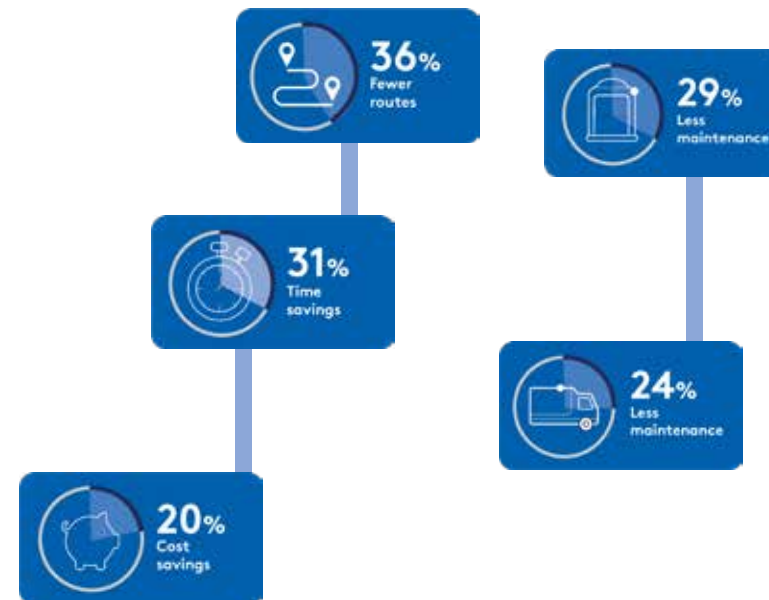
Optimised Logistics

Optimised Logistics

"Up to 33% fewer daily routes! 90.000+ containers managed."

The route to sustainable waste

Waste Vision's AI-driven planning and advanced statistics optimize collection routes, reducing costs and side waste. Our technology manages over 90.000 containers across Europe, delivering up to 33% fewer daily routes or even more. We see it clearly through the Waste Vision Suite. And don't forget the citizen's perspective: they encounter full containers less often, which means less need to leave waste beside them.

Our ECOS FillGuard sensors with three measuring sensors provide precise measurement, ensuring containers are collected only when needed—saving kilometers, time, and resources. Customers benefit from more efficient personnel use, lower vehicle costs, and improved service levels.

36% Fewer routes

29% Less maintenance

31% Time savings

24% Less maintenance

20% Cost savings

At the right time at the right location

With our smart systems you can collect waste much more efficiently. A key role is played by containers with online sensors, which give a signal when they need emptying. Using our predictive analysis algorithms, our solution plans the most efficient collection routes. Once planned, the routes are automatically available on the on-board computers of the collection vehicles. This way, the vehicles never travel one mile too far and only empties the neccesary containers.

New insights through data

Apart from the important fill rate data, we record other useful information during waste collection as well.
With our Waste Vision Suite software, you can see exactly how much time employees will need per location, as well as the exact location of these vehicles at that time. You can use this accurate and real-time data to find bottlenecks in your processes and to streamline them.

Additionally, it is immediately visible whether containers have been collected or not, along with the reason why. This allows the planner to quickly assess whether a container needs to be rescheduled (for example, because a car is blocking access) or not (such as in the case of a road closure).

Scheduled & dynamic collection

Smart logistics - Proven Technology

With the modular and future-proof solution for efficient waste collection, the Waste Vision Suite offers solutions for all types of waste bins and containers (above and underground) where the fill level is accurately measured. The software allows clusters of containers to be collected in a single route, with up to 100 pickups per day. The Waste Vision Suite links all data and offers dynamic routing, ensuring that only full bins are emptied and litter is minimised.

Thanks to data coming from the ECOS FillGuard level sensors – equipped with three radar "eyes" for a complete scan of the container –, the fill level of all types of waste bins and containers is accurately measured. The sensors are easy to install, run on batteries for up to 10 years and automatically detect emptying and deviations. Both connected and standalone versions are available, all with technology guaranteeing reliable, secure communication and remote updates. This makes waste collection smarter, more sustainable and fully tailored to your logistics process.

The ECOS Fillguard level sensor

Sustainable Asset Management

To Do List　　ID: pmd1234

15-6-2025	✓	⚙	Resolving drum jamming malfunction
18-7-2025	✓	🔧	Container repair: replacing the bottom valve
28-6-2025	✓	🔧	Container cleaning and preventive maintenance
15-7-2025	✓	◎	Container inspection
30-9-2025	✓	🔧	Battery replacement

Sensor
Predictive maintenance

Service
Faster response time

Planning
Tickets, Planning & Workflow

25%
Cost savings

100%
Increased job satisfaction

PDCA+
Predictive and proactive

Sustainable Asset Management

"Preventive/periodic/corrective maintenance, SLA automation, cost tracking"

Our platform provides comprehensive control over all container actions, including preventive, periodic, and corrective maintenance, washing, certification, and malfunction management. Real-time monitoring covers battery status, drum jams, and more, with automatic SLA work-item generation and cost tracking per work item. Integration with the Collect & Maintain app ensures seamless operations. Large-scale deployments, such as 14,000 containers and 100,000+ work items per year in Amsterdam, demonstrate our capability.

Preventive/periodic/corrective maintenance, SLA automation, cost tracking

Waste Vision constantly innovates and applies technology to make processes and products more efficient and sustainable.

From smart sensors to NFC-chips and from smartphone-apps to a data-driven software system; our solutions are plug & play, user-friendly and easy to scale.

Exceptional Services

Exceptional Services

Our service models are designed to maximize uptime, simplify support, and contribute to a more sustainable operation.

Maximize uptime:

With the Send & Return service, defective devices are quickly replaced or repaired, minimizing downtime. The Full Service model includes proactive monitoring and maintenance—if a problem occurs, Waste Vision immediately dispatches a technician or sends a replacement device, so customers experience minimal disruption. Over-the-Air (OTA) updates ensure all devices receive the latest software improvements remotely, keeping systems running smoothly.

Simplify support:

Customers benefit from an in-house service desk and a user-friendly ticketing system for fast issue resolution. Consultancy, implementation support, and mechanic training are provided to help clients get the most out of their solutions. Automatic SLA workflows and cost tracking per work item further streamline maintenance and support.

Contribute to sustainability:

OTA updates reduce the need for physical service visits, lowering CO_2 emissions. Predictive maintenance and real-time monitoring extend device lifespans and prevent unnecessary replacements. Efficient logistics and route planning minimize travel distances and resource use. Waste Vision uses recyclable, chemical-free batteries and designs solutions for long-term durability.

References, Certifications and Customer Stories

Customer Stories

Waste Vision is trusted by leading cities and organizations across Europe, such as: Rotterdam, Amsterdam, Den Haag, Groningen, Eindhoven, Utrecht, Antwerp, Neuchâtel, Bodø, Les Herbiers, Haute Limousine and Göteborg.

Customer Story: Rotterdam (The netherlands)

Amsterdam faced challenges with side waste and inefficient collection schedules. Waste Vision's integrated solution—combining access control, fill-level sensors, and the Waste Vision Suite software—allowed the city to collect containers only when needed. This resulted in up to 36% fewer collection routes, 29% less maintenance, and 20% cost savings. The city also benefited from improved citizen engagement and cleaner public spaces.

Customer Story: Antwerp (Belgium)

In Antwerp, Waste Vision equipped over 1.830 radar sensors in over 2.450 public bins linked to its smart platform. These sensors accurately detect fill levels—even with plastic bags—and enable dynamic route planning. The result due to an average of 77% fill-level per order: fewer collection trips, lower CO_2 emissions, and cleaner streets. Antwerp proves how smart waste tech boosts efficiency and sustainability.

Customer Story: Neuchâtel (Switzerland)

Neuchâtel implemented Waste Vision's modular software suite and smart container technology to support its sustainability goals. The system provided real-time insights into container fill levels and asset locations, enabling the city to optimize logistics and maintenance. As a result, Neuchâtel improved recycling rates and reduced its environmental footprint, demonstrating the scalability of Waste Vision's solutions across different countries and contexts.

We close the circle

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