



Comprehensive waste collection management for collection companies



Smart waste collection management

ESONA is a comprehensive system that helps all participants in the process of waste generation, separation and collection. Thanks to smart sensors, it allows waste collection companies to automatically register waste container emptying, effectively plan waste collection and optimize its routing.

AUTOMATIC CONTAINER EMPTYING MONITORING



A smart IoT (Internet of Things) device on the waste collection vehicle easily and conveniently ensures the location of the vehicle and allows you to record GPS coordinates, date and time of emptying individual containers. Through the GSM module, all recorded data from the IoT unit is available to users in real time.



- **Registration of every single emptying**

Registration of every single emptying is done automatically and contact-free by multi-sensor assessment of emptying. It records every single emptying of containers, regardless of whether or not the container is labeled with an RFID tag.

- **Contact-free identification of containers labeled with RFID tags**

The process of emptying the containers labeled with RFID tags is automatically secured by unambiguous identification without the necessary intervention of waste collection workers

MANUAL CONTAINER EMPTYING REGISTRATION



The mobile application or hand-held reading device allows you to record the emptying of containers or bags labeled with a QR code sticker or with an RFID tag. Manual reading is a suitable solution, for example, for bag collection or for the collection of kitchen waste.



It provides the registration of various types of containers and types of waste:



Containers and bags



Plastics



Paper



Glass



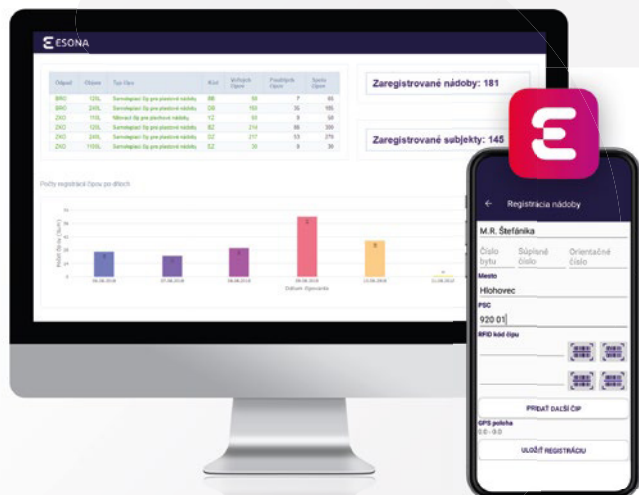
Mixed municipal waste (ZKO)



Biodegradable municipal waste (BRKO)



Biodegradable kitchen waste



Portal for waste collection companies

The web application provides a display of the obtained data on the place and time of all waste containers emptying, including the identification of containers labeled with RFID tags. The information is available in real time in the form of a user-friendly overview, including a visual location on the map. The application allows you to search and export selected data.

Portal for container administrator

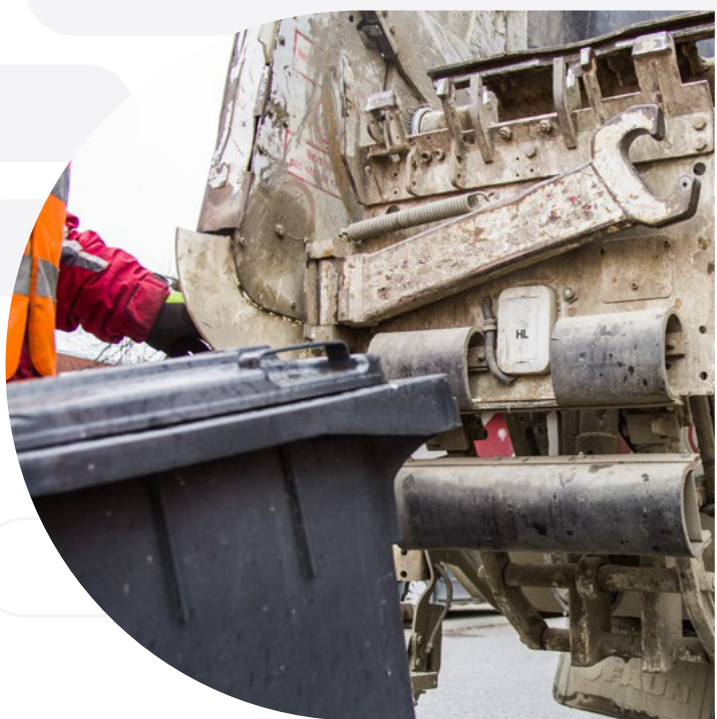
The web application serves the collection company in the role of container administrator, and is used, for example, in the collection of industrial and trade waste. It enables the registration of containers labeled with electronic RFID tags with unique codes and the precise assignment of the container and its type to a specific client of the collection company.

Mobile application for waste collection companies

The mobile application enables the recording of waste collection exceptions by the employees of the collection company and the possibility of displaying an order for non-collection of the waste containers defined by the municipality.

IoT unit

It is a device installed on the waste collection vehicle, which automatically and contact-free performs multi-sensor assessment of emptying. Remote control, configuration, monitoring and preventive maintenance of IoT units are provided without the need for disassembly from the vehicle. Customizable firmware in the IoT unit is a matter of course. All sensors as well as location and communication modules are integrated into one unique device, which ensures easy installation with minimal interference with the collection vehicle.



Accessories

Handheld RFID reader for manual registration of emptying

RFID tags – tags for plastic and metal containers





Benefits for waste collection companies



Automatic recording of emptying

Loading/reading of RFID tags during emptying is carried out automatically, without affecting the additional work load on the waste collection company employees.



Vehicle routing optimization

Proper planning of vehicle routing based on historical data brings the required savings in transport costs.



Real time data accessibility

Data on the vehicle position and on the place and time of emptying of individual containers is available and accessible in real time in the application.



Possibility of connecting the system to a weighing device

The system can be connected to dynamic scales that weigh the weight of individual waste containers.



Cost optimization by setting waste collection days and territorial zones

The possibility of determining collection days for waste containers according to the type of waste and for individual territorial zones of the municipality.



Transparent business relationship with clients

Reliable data on emptying minimize customer complaints and are the basis for simple and objective invoicing of services.



Possibility of manual registration of emptying

If required by the customer, also available is manual registration of emptying of containers and bags labeled with a sticker carrying a QR code or RFID tag using a handheld reader or mobile application.



Local support and service

This comprehensive solution was designed by Slovak developers, thanks to which local support and service are promptly available and provided.

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