



LEADING A REVOLUTION
IN BIOWASTE RECYCLING

Smart collection technologies for a smart circular economy

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Contents

SUMMARY

1. Challenge/ need
2. Solution
 - 2.1. Description of the solution
 - 2.2. How we have achieved this solution
 - 2.3. How this solution responds

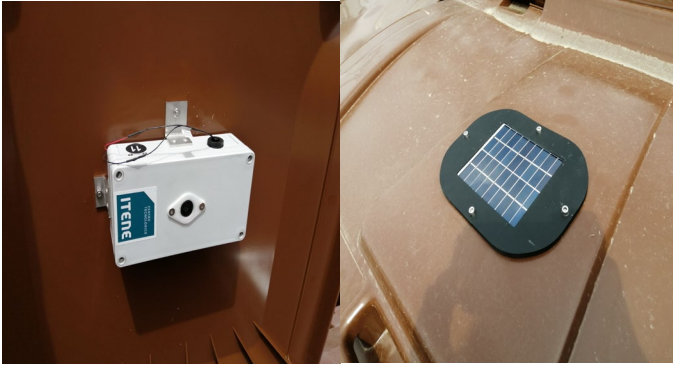
➤ 1. Challenge/ need

- Bad quality of the OFSMW₁ (improper elements, degradation...)
- Bad quantity, some containers are collected almost empty.
- Only 48% in 2020 was valorized (30% recycling rate and 18% by composting).
- 52% is eliminated (27% in waste to energy/incineration plants and 25% landfilled).
- Average composition of MSW in Europe in the last years: 32% food and garden waste, 29% paper and board, 11% glass, 8% plastics, 5% metals, 2% textiles and the rest other materials.

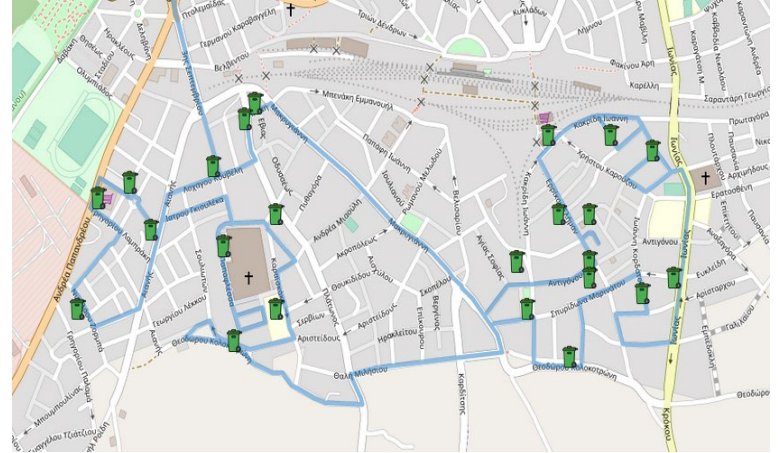
¹OFSMW: organic fraction of municipal solid waste.

2. Solution

2.1: Description of the solution



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DEVICE WITH SENSORS (filling
level + gas emissions)

OPTIMIZATION PLATFORM

➤ 2. Solution

2.1: Description of the solution



DEVICE WITH SENSORS

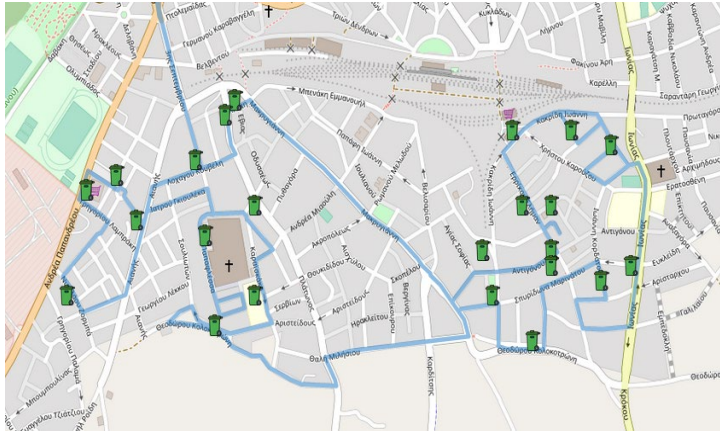
- **Filling level sensor** → to only collect containers with the proper fill

&&

- **Gas emissions sensor** → Waste collected only in containers with the optimum point of the matter, in order to be valorized in the maximum quality and quantity

➤ 2. Solution

2.1: Description of the solution



OPTIMIZATION PLATFORM

Optimization of the collection routes.

To save costs:

- **Kilometers** done by the trucks
 - **Time** of collection
- **Fuel** consumed by trucks
 - **CO2 eq. emissions**

➤ 2. Solution

2.1: Description of the solution



SAVINGS ALONG THE PROJECT IN THE PILOT CITY:

- **Kilometers** done by the trucks ➔ until 47%
- **Time** of collection ➔ until 45%
- **Fuel** consumed by trucks ➔ until 47%
- **CO2 eq. emissions** ➔ until 47%

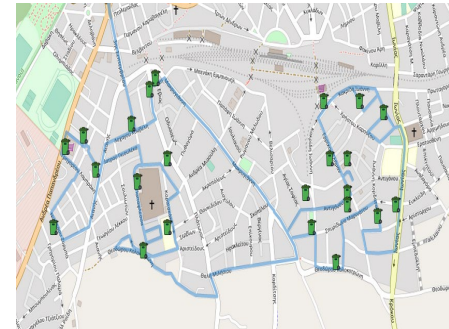
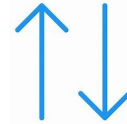
➤ 2. Solution

2.2. How we have achieved this solution

DEVELOPING HARDWARE → the device with different sensors and solar panel

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DEVELOPING SOFTWARE → the platform with its code



➤ 2. Solution

2.3. How this solution responds

- Current devices only have filling level sensors.
- The novelty of Scalibur is not that the device only has a filling level sensor, but it also has sensors which measure the gas emissions level.



➤ 2. Solution

2.3. How this solution responds

- Companies that will acquire the device (hardware) and the platform (software):
 - ✓ They will be able to valorize the waste in its optimal point of quality and in the biggest quantity.
 - ✓ They will save costs (like fuel of the collection trucks, kilometers, CO2 emissions and fuel consumed by the trucks).



THANK YOU 😊



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 @SCALIBUR_H2020

 SCALIBUR project

www.scalibur.eu

