## SCALTBUR

LEADING A REVOLUTION IN BIOWASTE RECYCLING

## **SCALIBUR** Leading a revolution in biowaste recycling

César Aliaga - ITENE

This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 817788



## Contents

Challenge The SCALIBUR project Improving biowaste collection Creating high value products Impact Replication Get involved

SCAL<u></u>∎UR

LEADING A REVOLUTION IN BIOWASTE RECYCLING

## > Challenge









Per year each European throws away 200 kg of biowaste

#### 75% of biowaste is landfilled or incinerated

Left in landfill biowaste causes emissions and pollution

#### €143 billion

annual costs associated with biowaste in EU

SCAL

## > The SCALIBUR project

- 'Scalable Technologies for Bio-Urban Waste Recovery'
- €10 million grant from the European Union's Horizon 2020 Programme
- 21 partners from 8 countries



## > 1. Improving biowaste collection

### Partners have developed **best practices** and technologies for selective collection, transport, sorting and pre-treatment, and characterisation of biowaste.



## 1. Improving biowaste collection

## **Best practices**

#### Collection

- 1. Homogeneous bring banks around the country
- 2. Implementation of an underground container system
- 3. App for on-demand collection from HORECA
- 4. Containers with chip to register filling levels
- 5. Use of biodegradable and biocompostable bags for collection
- 6. Start collecting of biowaste at schools
- 7. Specific collection system adapted to each situation
- 8. Efficient collection during summer
- 9. Selective collection of biowaste from the Horeca waste
- 10. Collection of Open market biowastes
- 11. User-friendly collection containers
- 12. Volunteer collection of biowaste
- 13. Anaerobic digestion plant
- 14. Containers with an ergonomic design

#### Transport

- 15. Software designed optimised waste collection route
- 16. Compacting collection trucks
- 17. Using electric trucks to collect waste
- 18. Truck traceability
- 19. Eco-driving

#### Social awareness

- 20. Clear instructions on the containers and bags
- 21. Pay-as-you-throw principle for fee calculation
- 22. Educational areas in Recycling Yards 23. Events, roadshows and workshops
- 24. Competition rewarding the best performance in biowaste collection
- 25. Schools campaign
- 26. Publication of positive recycling news as TV advertisement 27. Include citizens actively in the information loop
- 28. Waste ambassadors
- 29. Website on biowaste and recycling30. Associations of citizens providing direct feedback to municipalities
- 31. Targeted communication campaigns32. Dissemination of the environmental and economic benefits of biowaste recycling

#### Characterisation

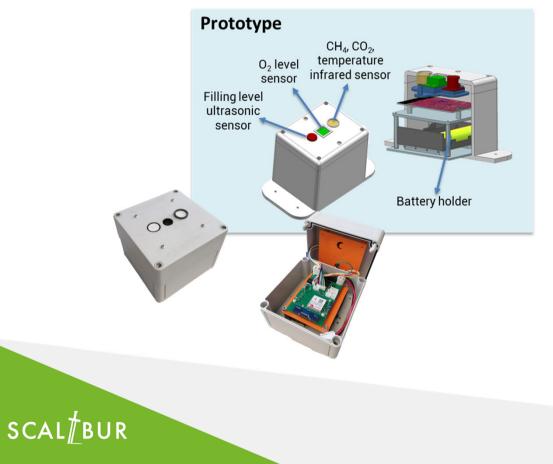
33. Data collection and monitoring quality parameters

34. Monitoring and control of the composition of residual waste in other recycling streams

### SCAL<sup>\*</sup>BUR

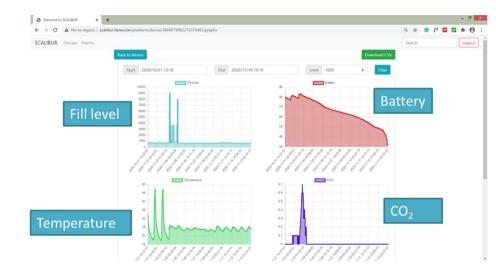
### > 1. Improving biowaste collection

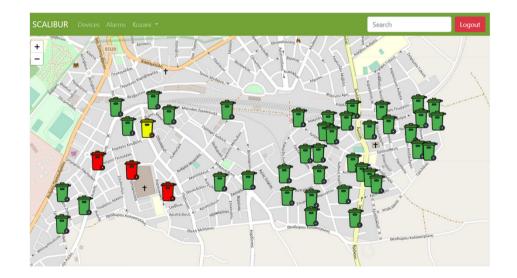
## Technologies





# Improving biowaste collection Technologies







8

## > 1. Improving biowaste collection

## Technologies

	Orange 🖲 🖪 🔕	i∏t <sup>∰</sup> II 82 % <b>■</b> 17:14	Orange 🔄 🗖 🧕 📀	ווייינין 81 % ביין 17:14 Orange ▲ <b>ג</b>	● 🖬 🔕 🛛 🔍 🔍 💭 17
	Scalibur	:	Scalibur	:	Zois Kareli 🕠
	Route 28 - RUNNING	G	#13 Αρίσταρχου, Kozani	i, Greece	hacia <b>lonias</b>
	Day to recover: Time cost: Distance cost: Containers to recover: Pilot:	2021-11-26 3150 s 42572 m 27 Kozani	Next: 744(n) (1n)229       PICK     Skil       ThroNills     20nAnitost       Athinost     2nd EPAI	P Despué	Antigonou
L <sup>1</sup> BUR	Route 19 - RUNNING Day to recover: Time cost: Distance cost: Containers to recover: Pilot:	G 2021-11-08 3339 s 44338 m 43 Kozani	Perias Optimize Control Social		Kakridi
	Route 17 - RUNNING Day to recover: Time cost: Distance cost: Containers to recover: Pilot:	G 2021-10-27 2917 s 44594 m 37 Kozani	KPHTIKOZ Super market Supermarket Licpote N Poppen	Protagora Ilaóc Havayiac korthodox churc	Koisekkarelji
	Route 15 - RUNNING Day to recover:	G 2021-10-01	έντρα Ξένων Γλωδισών Χαρίτου Πλατάν Googielanguage school		1 min 650 m ⋅ 18:16 EET

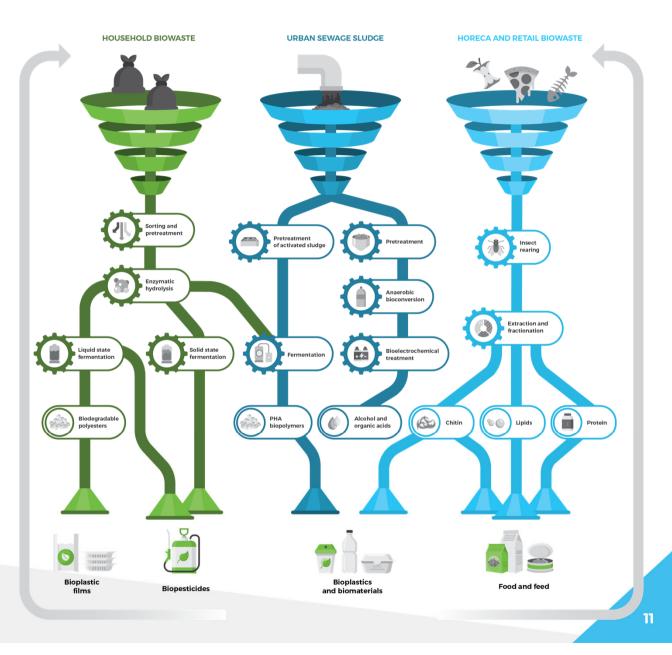
SCAL<sup>‡</sup>BUR



## > 2. Creating high value products

Partners have created new business opportunities by demonstrating three innovative value chains to transform biowaste into high-value industrial products.

SCAL BUR



## > Replication

Dedicated activities are helping stakeholders across Europe to replicate the SCALIBUR solutions.



Geenovate!



The SCALIBUR Stakeholder Platform is the main tool to access the project results. The Platform features interactive user-oriented modules in order to give easy access to relevant information for different stakeholder groups.



#### Thanks for your attention. Any questions?



This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement Nº 817788

