

# ADDRESSING THE CHALLENGE OF HARMONIZING MARINE LITTER DATA

Ceballo, J.\*<sup>1</sup>; Morales-Caselles, C. <sup>1</sup>; Cózar, A.<sup>1</sup>

<sup>1</sup>Biology Department, Ecology Area, University of Cádiz, 11510 Puerto Real, Cádiz, Spain  
juan.ceballo@uca.es, carmen.morales@uca.es, andres.cozar@uca.es

## Introduction

Marine litter pollution is one of the main challenges of humanity, becoming a priority on the agendas of national and international bodies (e.g. EC, G20, UN). Moreover, litter pollution is triggering a wave of clean-ups and citizen initiatives that generate information about marine litter. Unfortunately, the existing information is dispersed and barely comparable because in many cases it is not shared or properly done. The effectiveness of actions taken to combat litter is uncertain due to the lack of the necessary knowledge to design and evaluate management strategies. In order to address this problem the Global Litter Observatory (GLO) project is being developed by the Marine Litter Laboratory of the University of Cádiz (MALUCA).

## Littermeter®

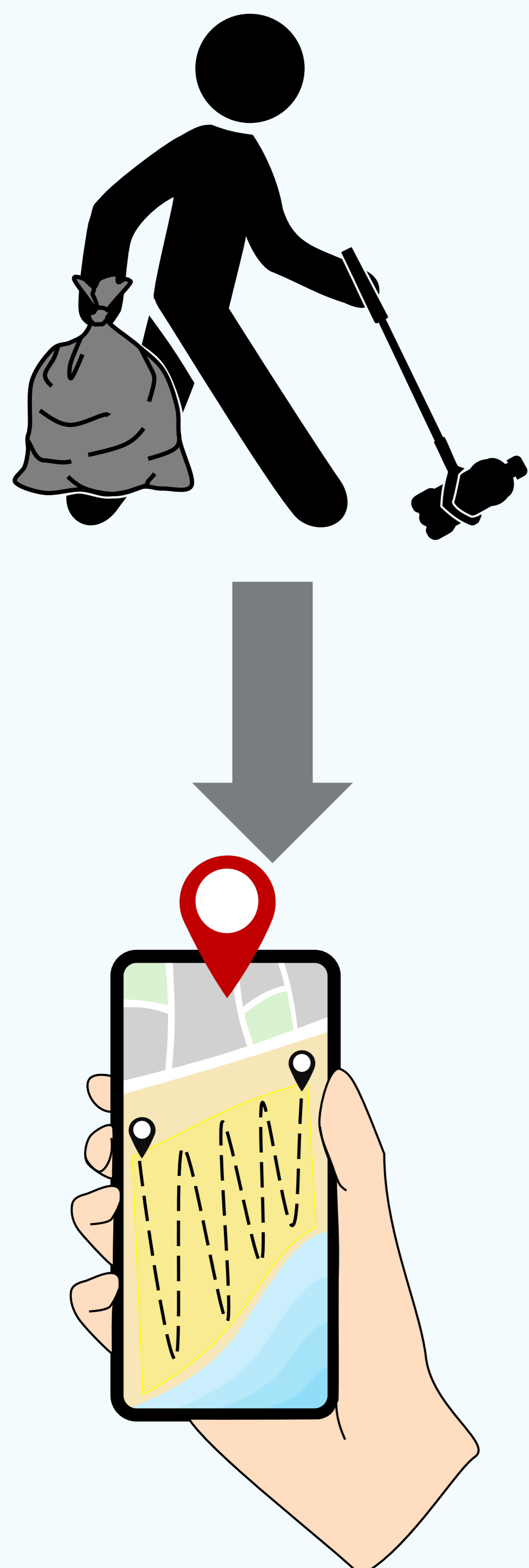
One of the main information catalysts today are mobile phones. This is an opportunity for anyone to provide information about litter in virtually any part of the world, since smartphones have the ability of digitise, geo-locate and connect to processing engines. Within the framework of GLO project, MALUCA team is developing the Littermeter® app. This app integrates different functionalities necessary for the quantitative measurement of litter pollution, which will overcome the lack of comparable information at a global level.



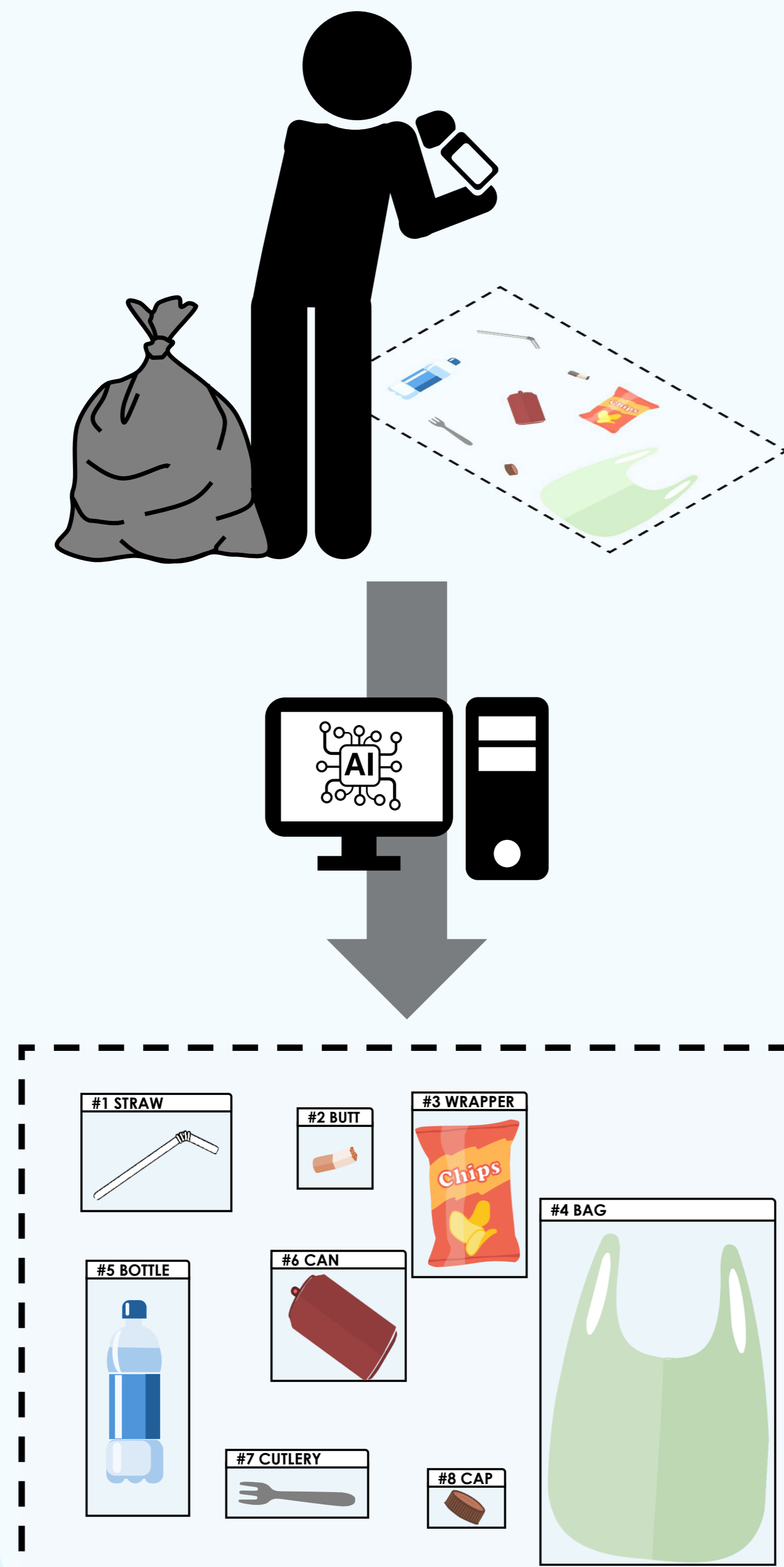
Global Litter Observatory

## Functionalities

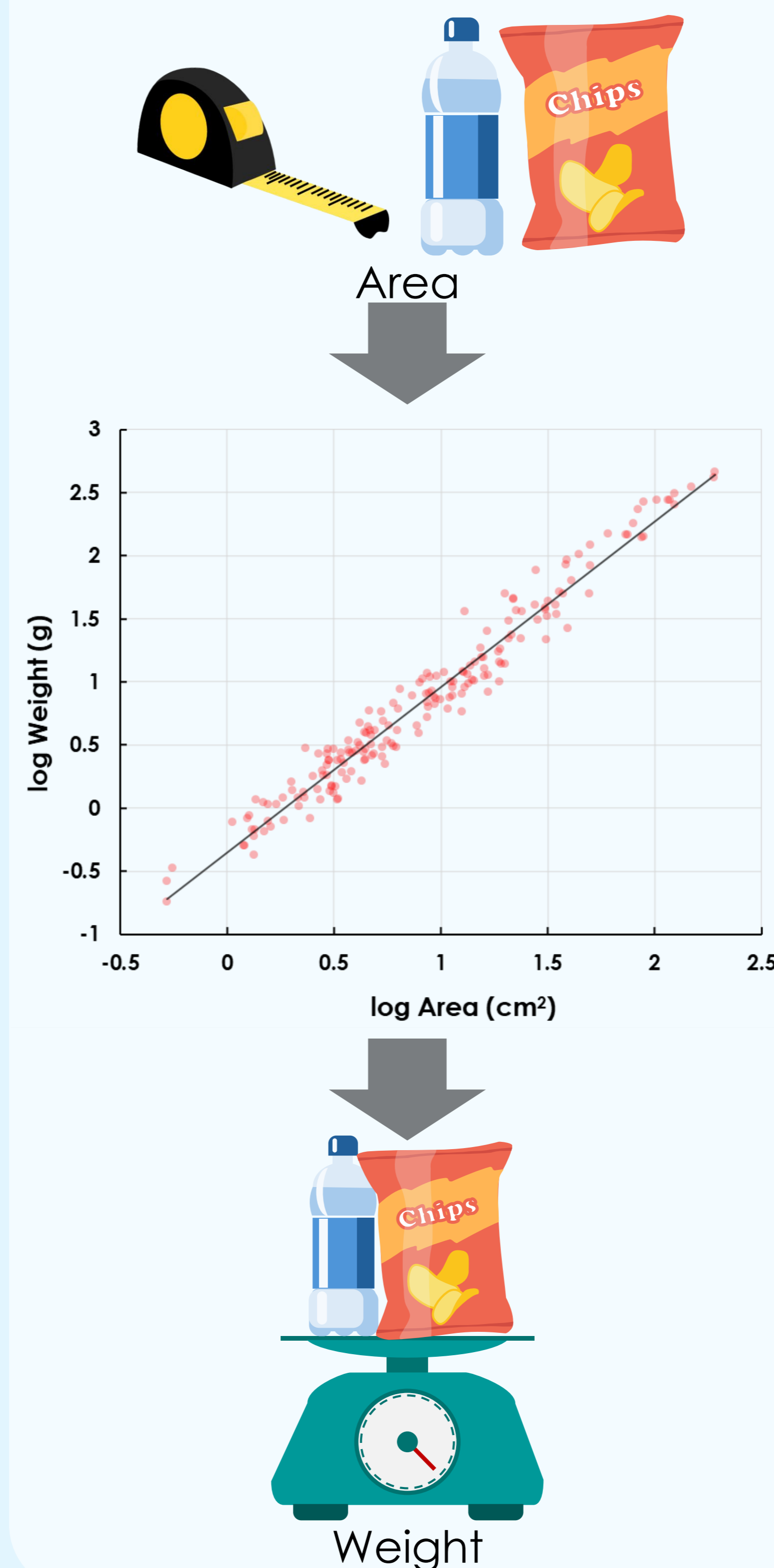
### 1. Estimation of the sampling effort



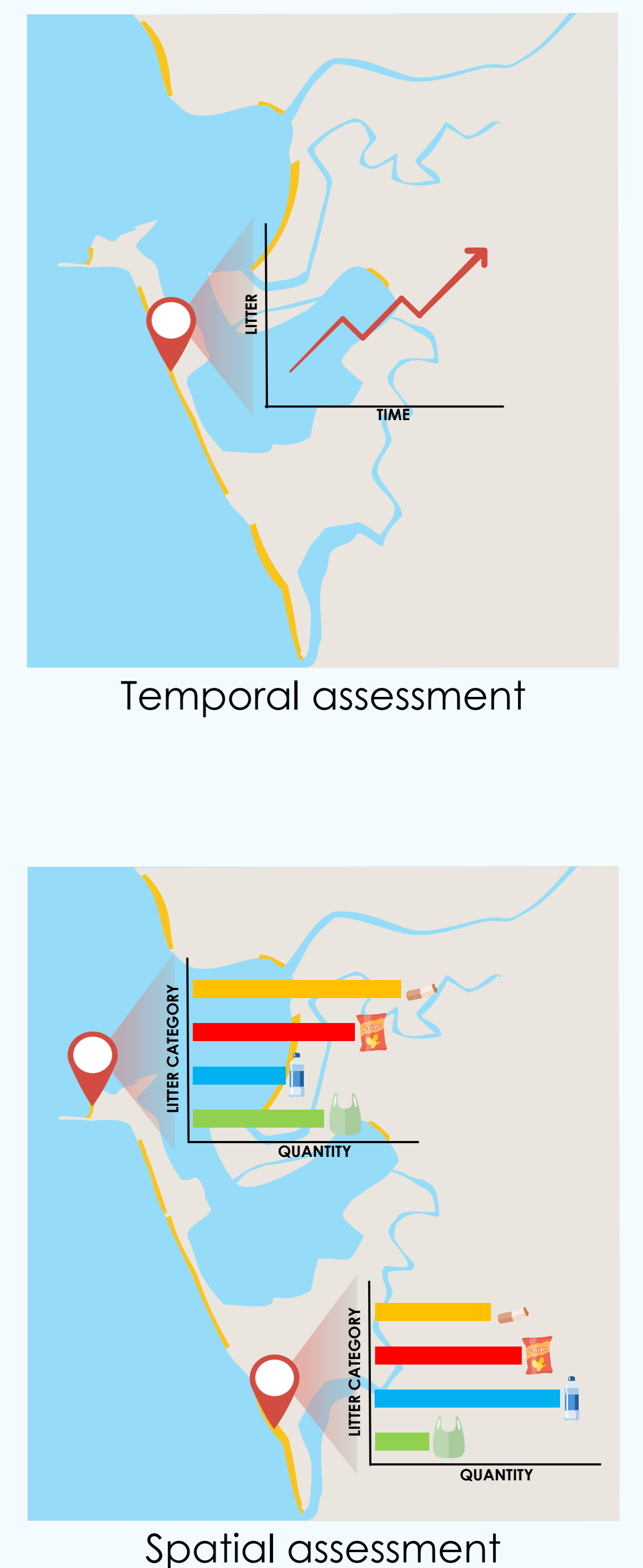
### 2. Automatic identification and classification



### 3. Mass-based metric



### 4. Harmonized global database



## Conclusion

This novel tool will allow comparability among different data sources by using the same language: an image, enhancing effective litter monitoring all over the world.

## Acknowledgements

Ceballo, J. was supported by the contract FPU-UCA from the "Plan Propio - UCA 2022-2023" of the University of Cádiz. This study was also supported by the Global Litter Observatory (CTM2016-77106-R/AEI/10.13039/501100011033/ Unión Europea NextGenerationEU/PRTR).

## Do you want to be part of GLO?

We are currently training the automatic litter recognition algorithm (Artificial Intelligence). If you want to help in its improvement, you can collaborate by sending us photos of litter in your environment. Find out how you can help in this QR code:

