



**Packaging reuse** service  
which promotes the **circular and social**  
economy



PROPOSAL FOR:



**Circular  
Packaging**  
CHALLENGE

• [WWW.GOZEROWASTE.APP](http://WWW.GOZEROWASTE.APP)  
• [MARTI@GOZEROWASTE.APP](mailto:MARTI@GOZEROWASTE.APP) •

## YOU WANT?

75% Spanish people prefer eco packaging products.

## YOU CAN!

59% users and shoppers finds too complicated to maintain sustainable consumption habits. You can help make it easy!




*Launched November 2021*

- **IOT** dispenser that allows to get and return reusable packaging
- Connected with **the App & BLE + Wifi**
- Different **clients**: markets, bulk stores, grocery shops, malls...
- Washing **center** with people in risk of social exclusion
- Sustainable Transport



## STEP BY STEP




 Open the dispenser through the App




Pick up the Packaging



 Go for your grocery shopping



 Bring the packaging back once you are done

**8.GO ZERO WASTE**

RETURNS THE CLEAN AND  
SANITIZED ITEMS TO THE SHOPS

**1.USER**

PICKS UP THE PACKAGING  
WHEN SHOPPING LOCALLY

**2.USER**

BRINGS THE PACKAGING HOME  
AND HE KEEPS IT UNTIL THE  
MEAL IS DONE

**3.USER**

RETURNS THE PACKAGING  
(CLEAN OR NOT) TO ANY OF  
THE SHOPS WITHIN THE  
NETWORK

**4.SHOP**

KEEPS THE PACKAGES  
PROPERLY STOCKED IN A  
DEDICATED PLACE

**6.GO ZERO WASTE**

CLEANS THE PACKAGINGS IN  
THE LOCAL CLEANING POINT  
(SOCIAL ORGANISATIONS  
INVOLVED)

**5.GO ZERO WASTE**

PICKS UP DAILY THE USED  
PACKAGINGS FROM THE  
NETWORK, GENERATING  
SUSTAINABLE AND SOCIALLY  
VALUABLE JOBS



Smart packaging: green blockchain  
Traceability technology: QR, RFID tags

*circular*  
**Neighborhood  
& City**

**Barcelona Logistic Center**

Avinguda Paral·lel 171 (BCN)

**Potential Clients:**

- Theatres/ Movies
- Barcelona Trade Center
- Stadiums
- Bulk Stores
- Markets
- Malls



## Packaging reuse service (B2B):

- Monthly fee.....150 €/month

### Includes:

- Number of Containers (2.500 containers/month)
- Sustainable transport
- Social inclusion cleaning
- IoT Dispenser
- Tracking platform
- Partner App / User App
- Communication materials
- Monthly impact report

### Selling price IoT Dispenser:

- From 1 to 10 units: 2.240 €
- From 11 to 50 units: 1.840 €
- More than 50 units: 1.600 €

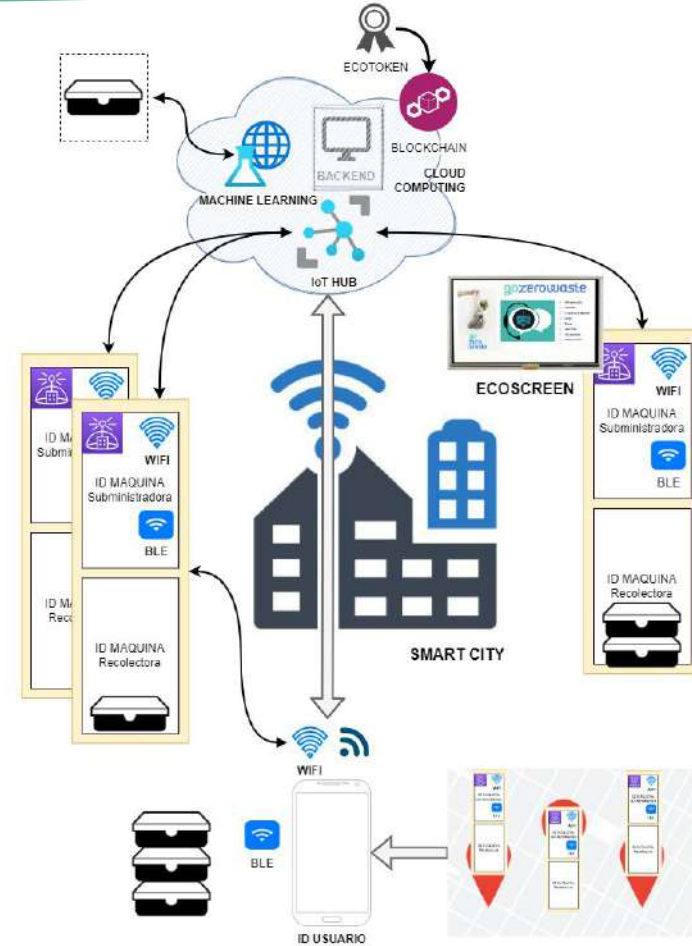


# TECH DEVELOPMENT ROAD MAP



## 1.- Sensors applied in the dispenser

- To ensure the status of the **containers** in the dispenser, information on the status of the dispenser is needed, such as the **number of containers available**, collection by the cleaning service, etc. and this is acquired with **sensors that report their status at all times**, in order to detect any change that could affect the correct functionality of the system or send the information to collect said containers as well as control quantity and quality of these.



## 2.- Voice Recognition



Action to  
make

- Voice recognition systems are based on the characteristics of **providing accessibility to devices that have daily use**. Through technology it is possible to create or have models that can be "trained" so that they recognize a greater number of words or new models can be created for **different languages, different types of pronunciation**, etc. It is graphically represented how the communication channel between the device and the user is carried out.
- The use of voice as biometric technology **facilitates accessibility to people with disabilities** in the use of the device. Not being able to take advantage of the opportunities offered by new technologies means a greater vulnerability to social isolation and a reduction in self-esteem.

### 3.- Wireless technology application

- The use of the Wireless connection will **allow the connectivity and communication of the device through established protocols**, with dedicated use commands, towards external elements through connectivity with the **MessageBroker** of the IoT platform in order to **establish communication between the device and the platform**, with the end of bidirectional sending of alarms and control data.

### 4.- Front-end user interface through mobile application and NFC

- The use of an interface to display the information required by the user who has access. The front-end corresponds to an interface that has the functionality that the user interacts with the platform and with the container, this allows identifying the state of the container, clean or dirty, to ensure its quality.

## **5.- Control via IoT message broker (IoT Hub) and Back-end on Azure and AWS platforms**

- In order to have control of the information provided by the devices with their sensors, for example, the need to use platforms that provide the user with device-cloud interaction.

## **6.- Blockchain and Ecotokens**

- Every time the user uses the dispenser and picks up/returns a container, a certified ecotoken is accumulated through Blockchain that allows them to reduce their tax rate or win prizes from stakeholders who participate in the project.

## 7.- Machine Learning

- With the use of Machine Learning it will be possible to make predictions based on patterns of collected data, machine learning adopts many combinations of algorithms and hyper-parameters to help find the best model according to the chosen success metric.

## 8.- Predictions

- Depending on the temporality, the location and the historical use of the containers, predictions of daily use can be made, allowing the service to

## 9.- Elimination of biological pathogens

- Disinfection of containers by exposure to non-ionizing radiation from ultraviolet light

## Concept

- Engineering and development of inclusive IoT prototype..... 30.000 €
- Management technology platform.....25.000 €
- Data modeling.....15.000 €

**Total:**

**70.000 €**



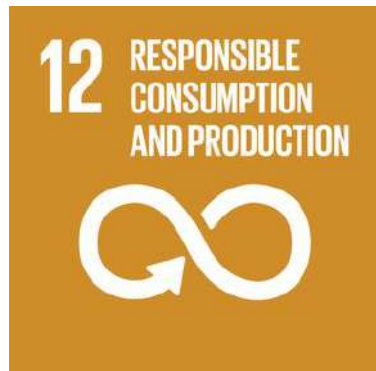
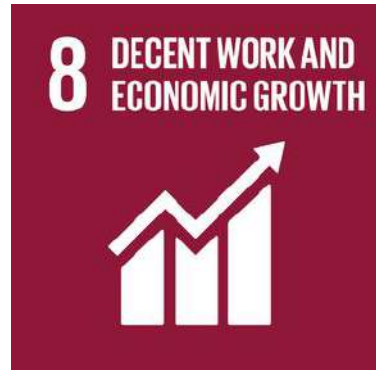
## PACKAGING DEVELOPMENT ROAD MAP

## 1.- Reusable and recyclable packaging

- Create **reusable containers made 100% recycled and 100% recyclable** at the end of their use.
- Use **local products** as rice husk from Delta Ebre to manufacturer reusable containers.
- Introduce **reusable bags** (50×47cm & 30×30 cm) to use in retail, fruits, vegetables, etc.







## MEET THE TEAM



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CTO



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Project Manager



**Dàmaris Coll**

UX / UI



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Desenvolupar Backend



**Joshua A.**

Marketing Manager



**Karen Aguilera**

Australia Coordinator

Amb el suport de:



## Tech development & consultancy



### Apparatum

Custom IoT products  
based on your needs



### Inèdit

Environmental  
consultant



### Tàndem Social

Social consultant



### Comunicas

Communication  
Agency



### Agencia Catalana de Residus

Government agency

 **Sostenible**  
Transport



Ethical, sustainable and  
inclusive messaging  
from Barcelona



Sustainable  
transport and  
social inclusion



Sustainable  
delivery by  
bicycle

THANK YOU!

go  
zero  
waste

Info:

Web: <https://paasiot.xyz>

Video: <https://youtu.be/4Lp40X1LF6M>

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