

Transition to PAYT tariffs in southern European Countries: the contribute of project LIFE PAYT

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Introduction



Figure1: Project Logo

Current municipal waste management practices in Southern European countries have failed to achieve high recycling rates and have difficulties in reaching EU waste environmental targets for 2020. The use of an economic instrument such as PAYT (Pay-as-you-Throw) waste tariffs could reduce waste production and increase source segregation of waste, contributing to the economic and environmental sustainability of municipalities.

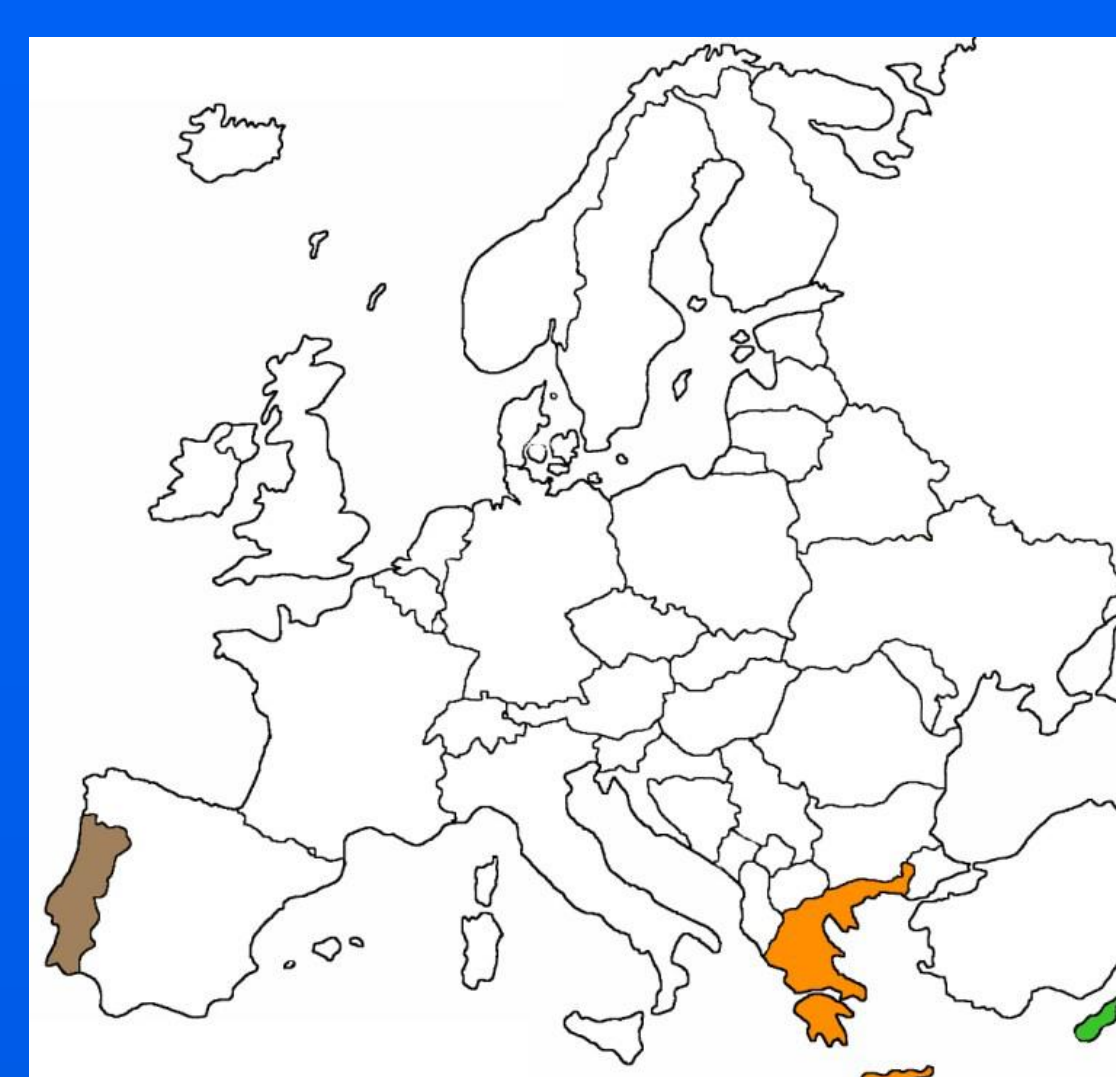


Figure 2: Map of LIFE PAYT project

LIFE PAYT – Tool to reduce Waste in South Europe is a LIFE Environment Project with an overall budget of 2.517.571€, co-funded by the European Commission. The project will test the adoption of PAYT ("Pay-as-you-throw") waste tariffs, which will encourage waste prevention and source segregation practices, fostering separate collection. The duration of the project is 40 months starting on the 1st of September 2016.

Methodology

To demonstrate that PAYT is the financial instrument leading to sustainability within waste management, the LIFE PAYT project will carry out the transition to PAYT in 5 selected demonstration sites in South of Europe: from the big cosmopolitan city of *Lisbon* to the laid back *Condeixa Municipality*, the project targets commercial waste producers; in *Aveiro*, *Vrilissia* and *Larnaka*, households are the main targets.



Figure 3: demonstrations sites

To link the waste to producer with the amount of waste discarded, RFID tags will be used on waste bins for the commercial producers. For domestic producers access to collective waste containers will be granted with an ID card. At the same time the collection vehicles will be upgraded with a system to read the information in the waste containers.

Simultaneously, an integrated PAYT operation management platform will be developed where data on the use of electronic cards to open waste containers and data on the collection of tagged waste bins is received, stored, analysed and used to calculate the waste tariff.

The output of the platform is focused on fair and equitable waste tariff design, adapted to the socio-political South Europe.

Throughout the project the environmental and socio-economic impact will be monitored. Furthermore, training courses and communication campaigns will be carried out inform and train the population and the stakeholders involved.

Results

For the transition to PAYT at household level collective waste bins are being upgraded with a rotating chamber inserted into the lid which allows placing only a fixed volume of waste at a time (Figure 4). Sensors and on-board computers are being installed in collection vehicles to allow reading and storing information on waste bin collected (Figure 5). The integrated PAYT operation management platform is being developed (Figure 6).

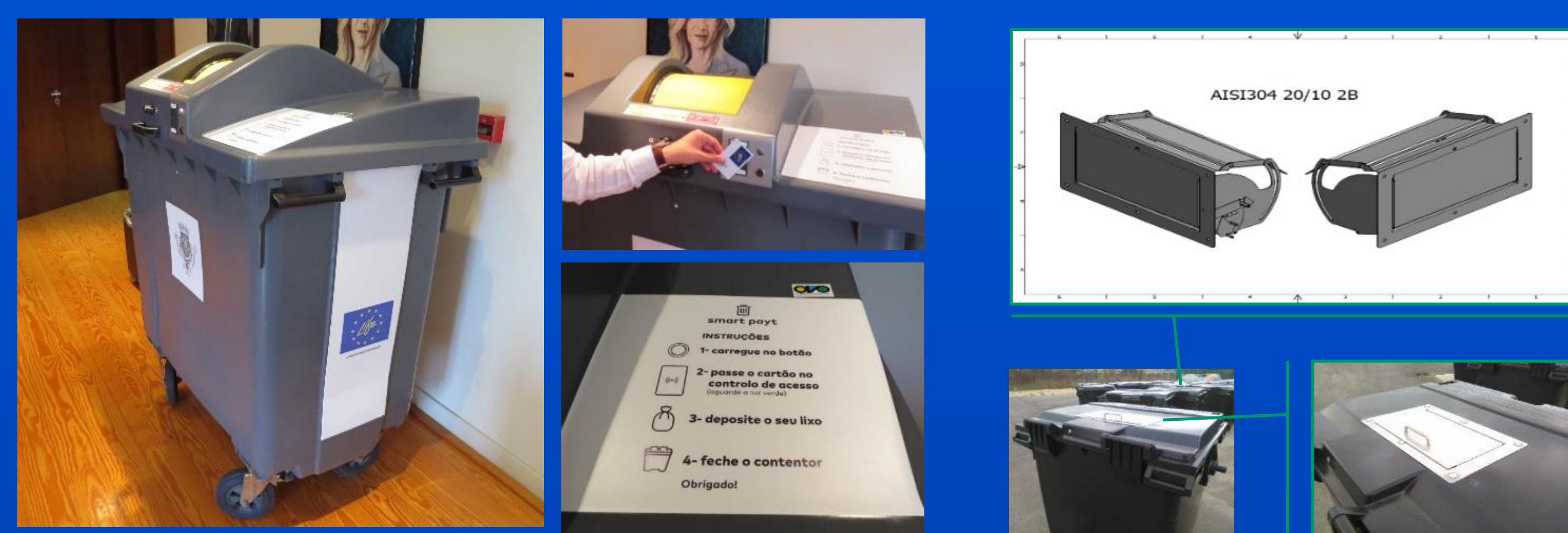


Figure 4: two examples of upgraded collective waste bins

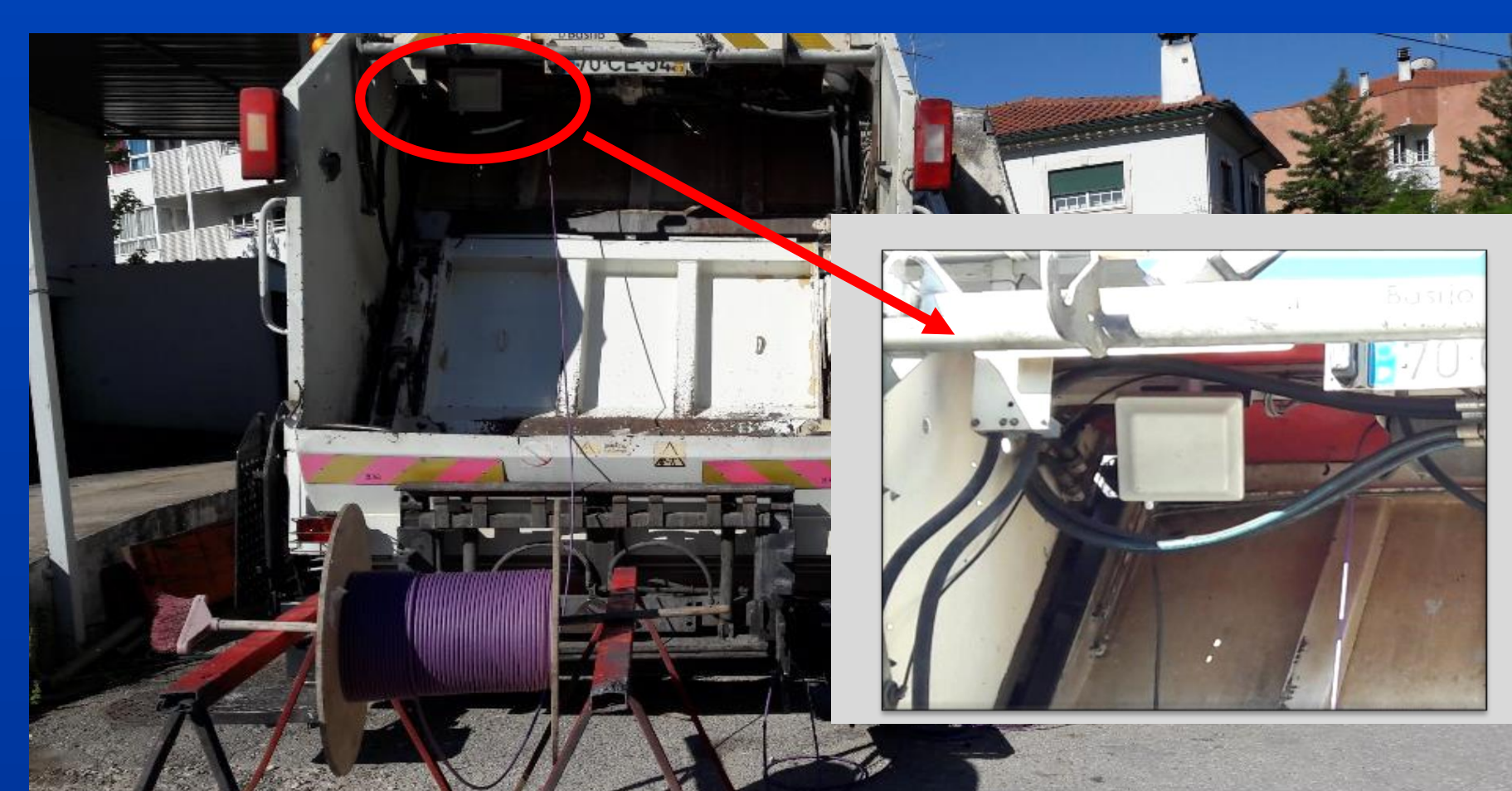


Figure 5: Test installation in collection vehicle

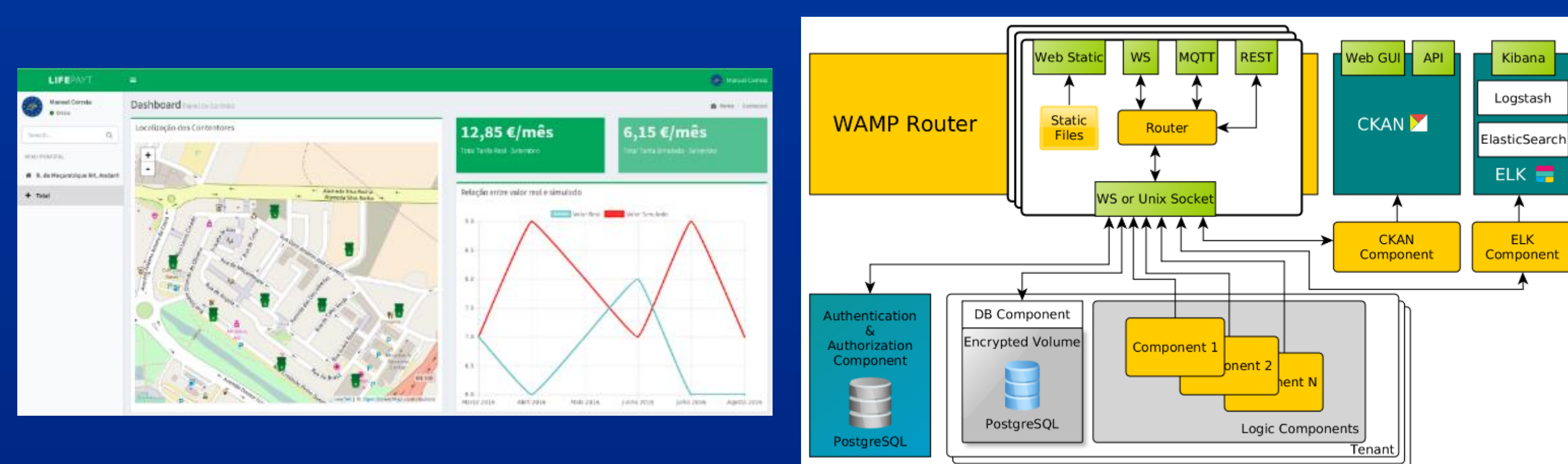


Figure 6: Integrated platform in test and his architecture

Discussion and Conclusions

Implementation of PAYT waste tariffs requires profound changes in waste collection services. So far, existing commercial solutions for access-controlled waste containers adequate to PAYT are quite expensive, making difficult the wide-spread of such solutions due to economic constraints. New low-cost market solutions need to be put forward, and in the project LIFE PAYT two different container prototypes are being developed and will be field-tested in the near future. Adaptation of collection vehicles is also required in PAYT implementation and commercially available solutions already exist at an acceptable cost. However, in order to be implemented, testing and training (for the waste collection team) are required. The last change required, in terms of waste collection services, is the development of a platform to store, process and display all the field data. In this context, the web portal /integrated platform being developed within LIFE PAYT will provide a valuable tool to municipalities wishing to implement such systems. The next step goes further than waste collection, and involves changing the disposal behaviors of both householders and non-domestic waste producers. This constitutes the upcoming tasks in the transition to PAYT tariffs at the demonstration areas.

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