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Int. Classification:

Title: **SOLID WASTE COLLECTION DEVICE AND SYSTEM**

Description:

The present invention relates to a waste collection device comprising: a body with an entrance and an exit door; a chamber for receiving the waste of a user, defined between a presser and a folding flap; weighing and volume measuring means inside the chamber; and a processor that calculates the density of the introduced waste, depending on the range of admitted values, open the folding flap to an inclined position in which the waste introduced is discharged by gravity.

The whole system also comprises a container attached to the device, a central server and a fleet of collection vehicles, all communicated via wireless means.

Advantages of the invention:

At present there are several measures aimed at dealing with waste management, among which there is mainly recycling in properly classified waste bags and the incineration of the rest, with the extra cost of resources, energy, infrastructure, logistics and environment that this implies. However, all these known measures only preserve the environment partially.

From the public administrations there are campaigns aimed at promoting recycling in order to limit the use and abuse of non-degradable materials to avoid environmental pollution, being an alternative the promotion of the recycling of urban solid waste produced in homes.

Measures of a purely suggestive nature must be frequently combined with measures that strengthen the desirability of home recycling based on rewarding those who make a good separation of household waste, as well as penalizing those who neglect the need for recycling.

At present, noise pollution at night can reach 80 dB in collection trucks, since these often empty containers with a medium-low deposition load ... and add the fossil fuel cost overruns of the collection truck network and CO₂ emissions that in a medium-sized city could reach 60,000 tons of CO₂ / year, with the environmental consequences that this pollution implies.

On the other hand, the security of the container fleet and that of public infrastructures is not guaranteed in the event of the burning of these, whether due to misuse, accidental or vandalism.

In accordance with all of the above, the state of the art lacks comprehensive solutions for the efficient management of garbage collection, energy-efficient, non-polluting and safe, and even taking advantage of the infrastructure to be deployed to serve Smart Cities.

