

The Beautiful Waste

Kena VAYSSE | 21/01/19

The Beautiful Waste offers a smart bin that consists of a bin to collect organic waste and a smart head that will neutralize food odors, volume and dirt. The user takes the trash to a collection point provided for this purpose in the street. The methanation (anaerobic digestion) of harvested and sorted waste will fuel the collection trucks with biogas and will thus show the inhabitants that their sorting is useful for the common good. It will be possible to consult a report of its deposit of waste on an interface, webapp. At the same time, it allows contributors access to compost that they can reuse in their individual or collective gardens!

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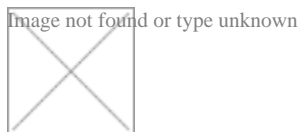
La fiche .pdf de ce projet n'est pas encore disponible

The Beautiful Waste is an innovation proposed by Danaë Lavaud, Thierry Martinez and Solène Naselli as part of the Convergences Workshop ENSCI - Grenoble Alpes University (2014)

Our project proposes to recycle fermentable waste in order to use the remains of our plates to create energy but also to bring collaboration between the inhabitants of the same neighborhood. it had to be incorporated into the already existing sorting system Simplicity, valorization and optimization are the key words of this program "(Danaë, Solène, Aurélie, 2014

The Beautiful Waste, what is it?

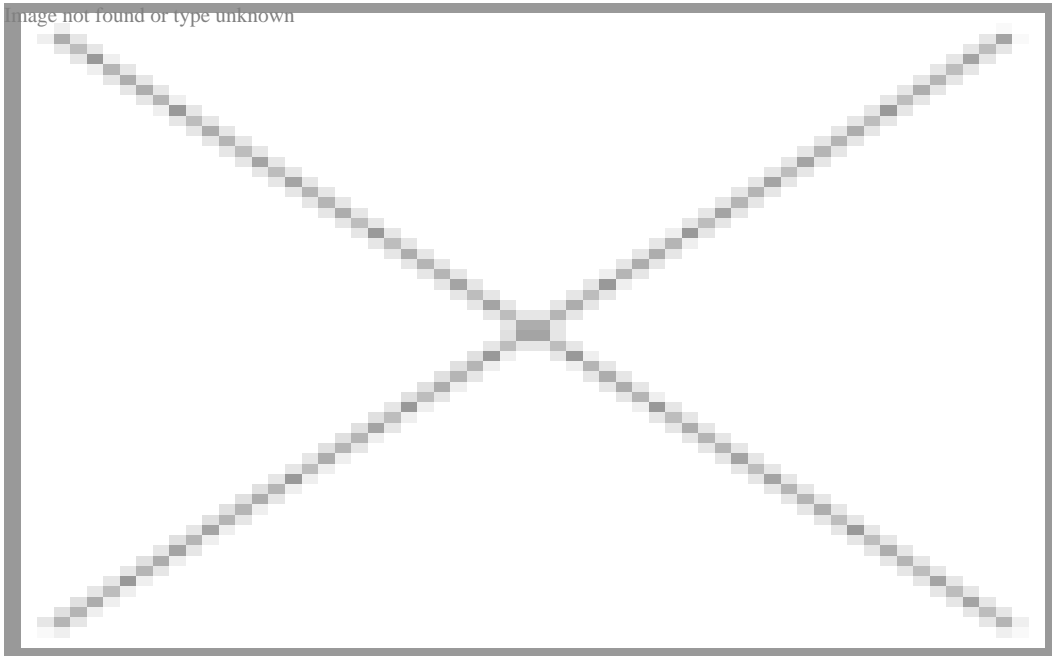
The Beautiful Waste offers a smart bin that consists of a box to collect leftovers and a smart head that will freeze the food and remove odor, volume and dirt. She is taken to a collection point provided for this purpose in the street. Anaerobic digestion of the harvested and sorted waste will enable the collection trucks to be supplied with biogas and will thus make it possible to show the inhabitants that their sorting is useful for the common good. It will be possible to consult a report of its waste deposit on an interface, webapp. At the same time, it allows contributors to access compost that they can reuse in their individual or collective gardens!



Here is a little video teaser of the Beautiful Waste

How it works ?

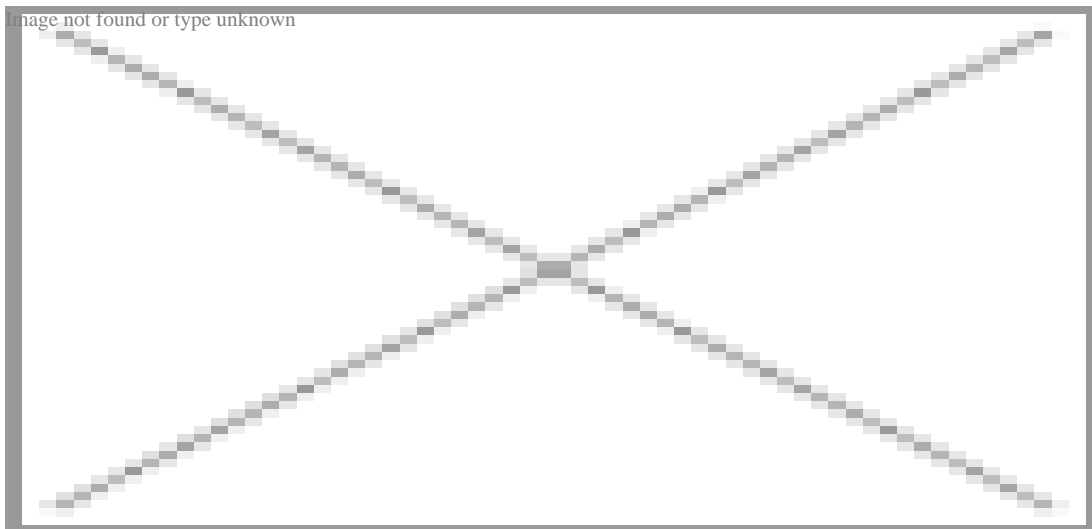
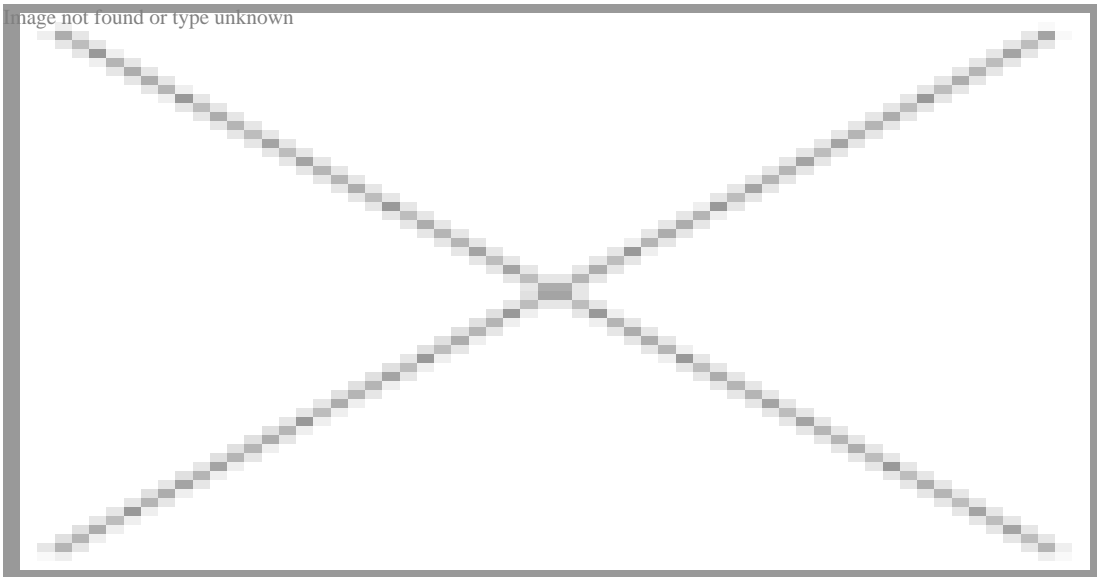
Nice junk it's a "smart garbage grid"! It consists of a box (or collector) that collects the leftovers and a smart head (or dryer) that will lyophilize the food and thus remove odor, volume and dirt.



The users of this bin will only fill it with fermentable waste, that is to say leftover food such as peelings of fruits and vegetables for example. Once full, they will separate the head from the rest of the body and take it to one of the harvesting points provided for this purpose. A tank that will be called "central" will be placed near the glass collection points to optimize all paths. It will be buried underground, with only a small hatch to insert the box. Once emptied, the box can find its place in the kitchen and the cycle starts again.

In parallel, the current system continues to work, slightly transformed: pickup trucks will pick up the plant but only when the latter is full and it will have warned the grid. This will optimize the number of rotations. In addition, the methanisation of the sorted waste will enable the collection trucks to be supplied with biogas and will thus make it possible to show the inhabitants that their sorting is useful for the common good. The plant recovers, weighs, counts, displays, convenes; it's a waste supercomputer.

Thanks to an RFID tag traceability of the box and its contents, it will be possible to consult a report of its waste deposit on an interface, webapp. Users will also find a wealth of information: news from the city, sorting tips, etc. This information will also be available on an interface close to the tank. It will allow them at the same time to access compost that they could reuse in their gardens, individual or collective!

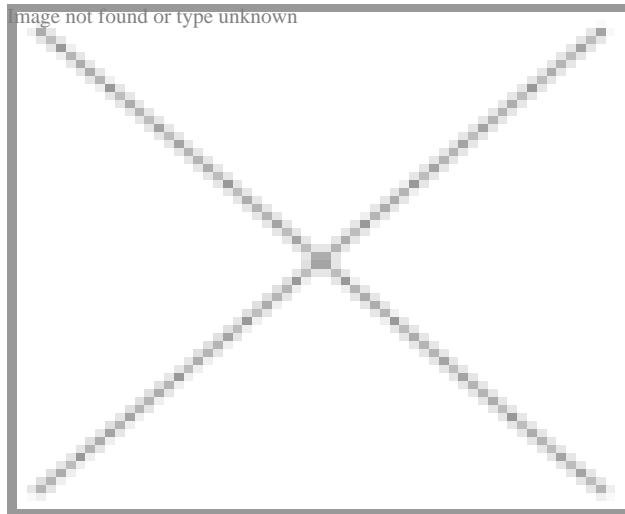


WHAT does it bring?

1. The Beautiful Waste is a sustainable contributory system that brings to many levels of our socioeconomic system.
2. The Beautiful Waste reduces the weight, cost and environmental impact of waste treatment
3. The Beautiful Waste brings the feeling of doing something for the planet for the sustainable management of limited resources.
4. The Beautiful Waste brings energy to urban waste collection vehicles
5. The Beautiful Waste brings a greener, more breathable city
6. The Beautiful Waste saves the city and therefore the taxpayer
7. The Beautiful Waste brings compost to urban gardens

Who is it for?

1. To the citizen concerned about his immediate environment, the quality of life in his city, the environment of the cost of waste treatment and which, eventually, garden.
2. To the manager of the waste collection system who organizes waste collection in the city, who pays for the fuel of the trucks and manages the volume of waste to be reprocessed
3. At the collector (garbage collectors) who carries out the waste recovery rounds
4. HOW does it position itself?



HOW does it position itself?

The Beautiful Waste integrates with a pre-existing system in order to better valorize waste and optimize the processes related to domestic waste in the city:

without any work overload for the user who manages the collector at the same time as his usual trash cans and who takes it to the power station when he goes down his garbage cans or at the same time as the broken glasses, and taking advantage of the usual rounds of waste collection trucks that contribute to energy resources contributing to the phenomenon of gardening or urban agriculture through the production of compost by contributing to the valorization of the limited resources of the planet contributing to the fight against global warming

Usage Scenario

There is a little use case scenario of The Beautiful Waste, starting with a diagram of the system. It is a virtuous circle, where we facilitate the maximum use for our end users, city dwellers. The right part of the diagram

concerns the user actions, the central part, the elements shared, collective, in the street; the left side, the cycle supported by the manager, id is, SITA, our partner.

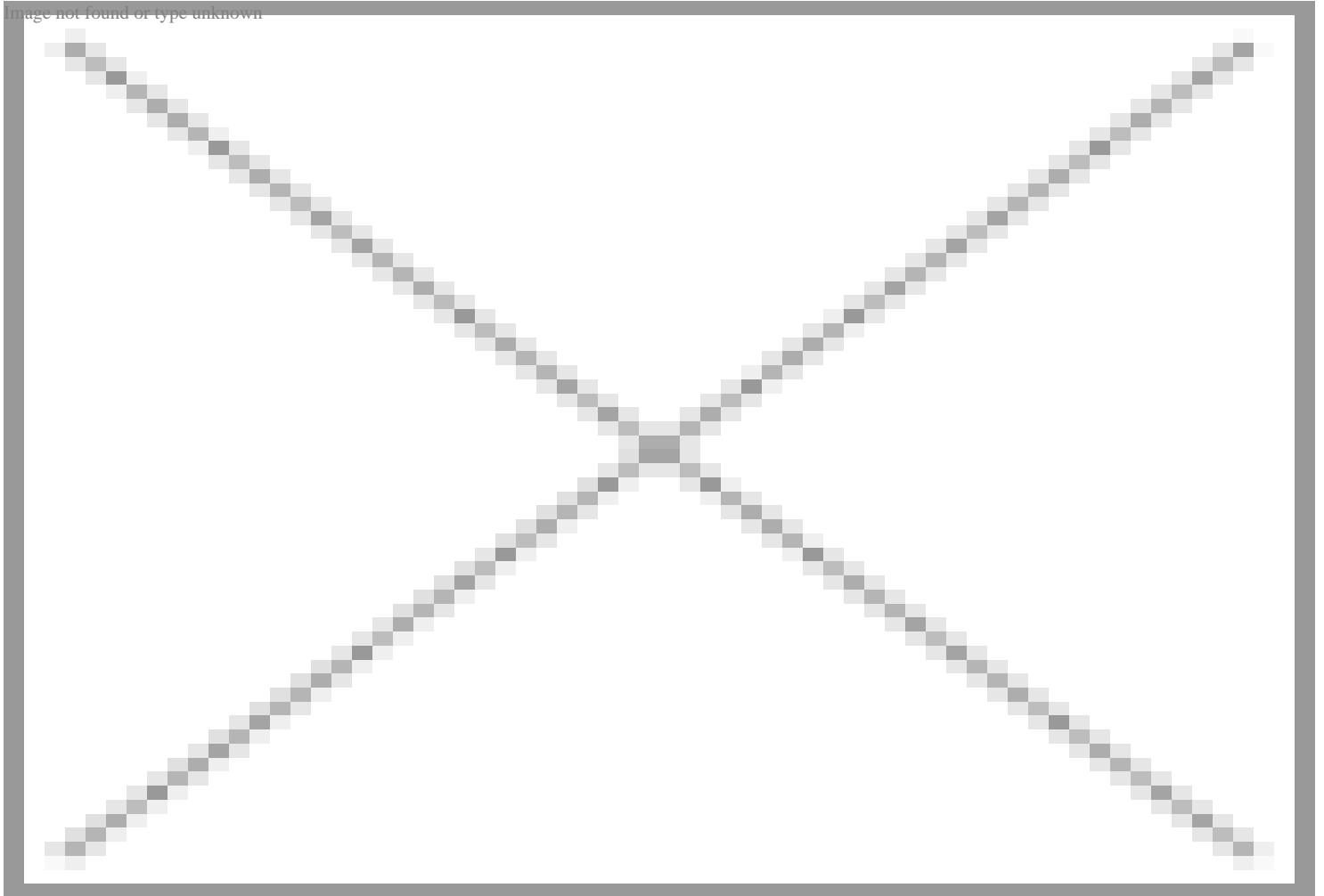
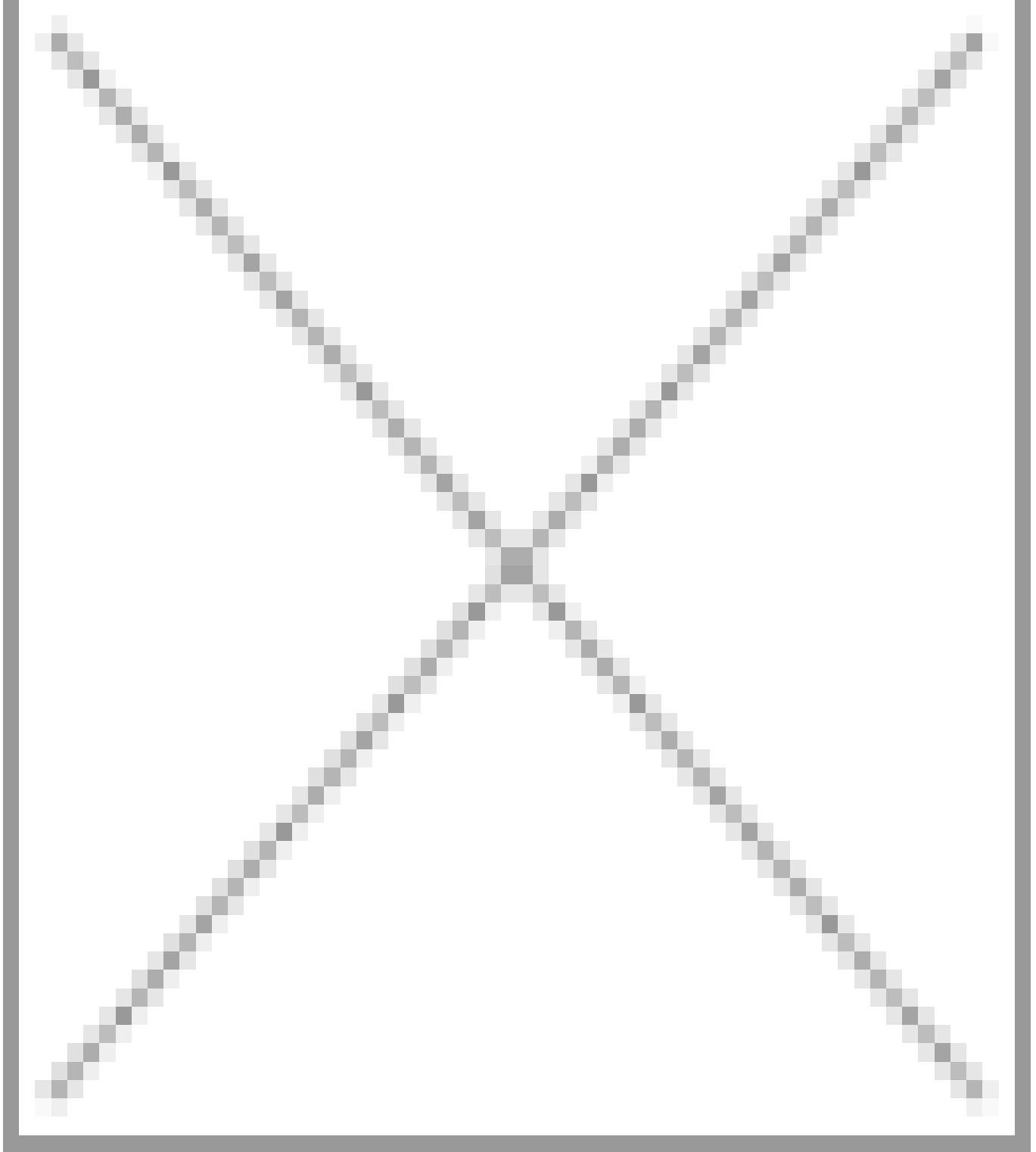
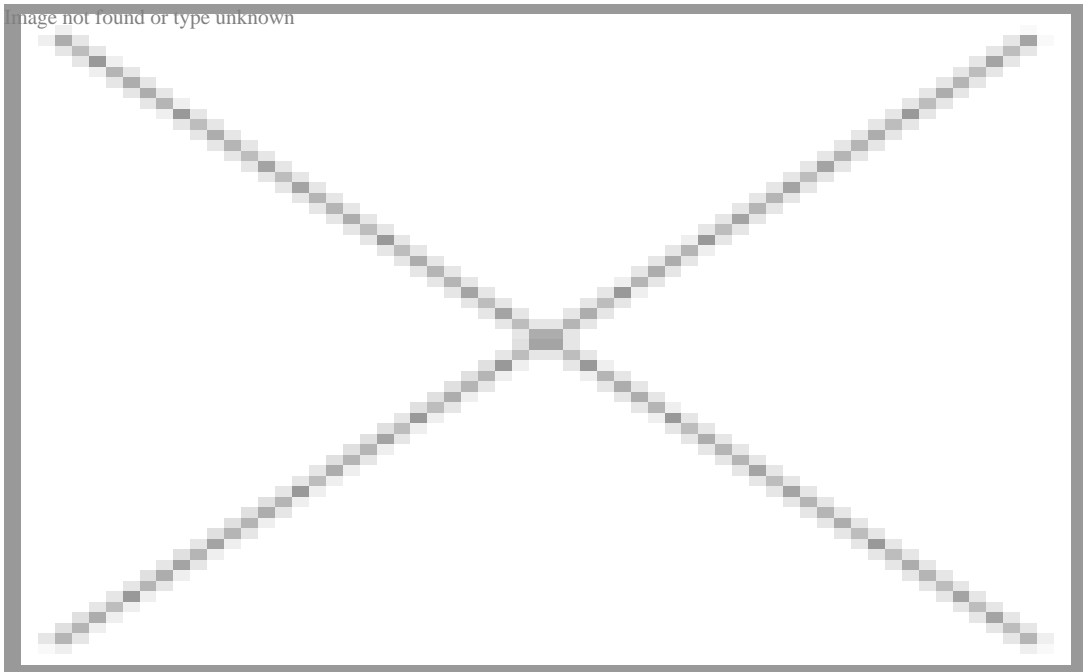


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The Bin

Beautiful waste is a "smart grid of garbage"! It consists of a bin (or collector) that collects the leftovers and an intelligent head (or dryer) that freeze-drys the food and removes odour, volume and dirt.



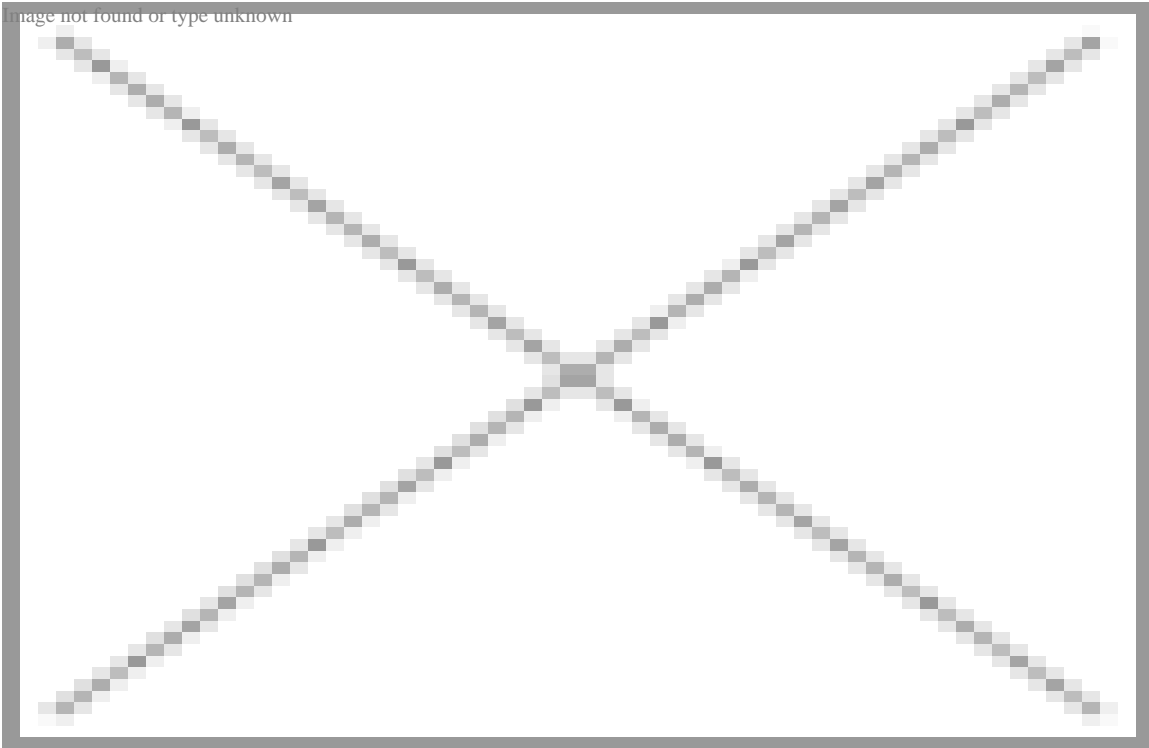
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The Web App

Thanks to an RFID chip traceability of the box and its contents, it will be possible to consult a report of its waste deposit on an interface, webapp. Users will also find a wealth of information: news from the city, sorting tips, etc. This information will also be available on an interface close to the tank. It will allow them at the same time to access compost that they could reuse in their gardens, individual or collective!

The Central Tank

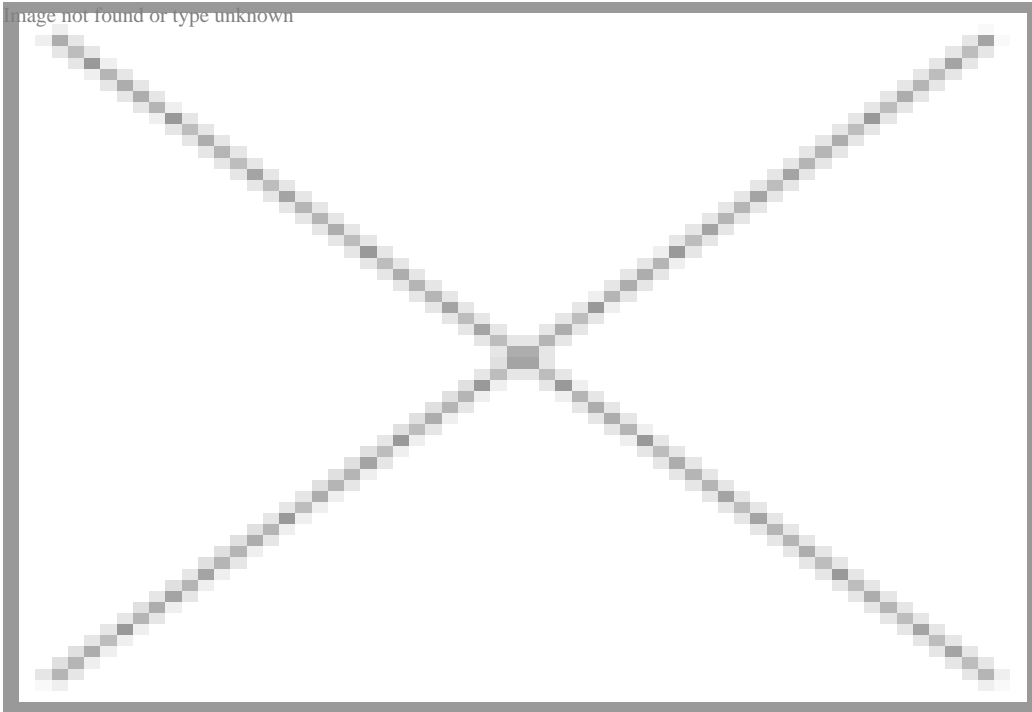
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The New Process

The Beautiful Waste is also a service innovation, a new organization based on technological innovations.



The proposed system is a virtuous loop - described in the diagram below - where we facilitate to the maximum the uses for our end-users, the city-dwellers. The right part of the diagram concerns the user actions, the central part, the elements shared, collective, in the street; the left side, the cycle supported by the manager, id is, SITA, our partner.