



# Frisbox

“in the koelkast,  
GFT dat moet cool gast”



Currently, organic waste is hardly separated in high-rise areas in the Netherlands. Flat inhabitants experience annoyance when separating organic waste due to the odour that comes from preserving organic waste for multiple days. However, emptying small bits of organic waste on a daily basis in a public container is often perceived as too much effort. So, how could flat inhabitants separate organic waste in a convenient way?

With the Frisbox, flat inhabitants can store organic kitchen waste for multiple days without experiencing odour annoyance. This is achieved by placing the Frisbox in the fridge, which slows the degradation process of organic waste down, resulting in no annoyance of odour.

### The Friszak

10% of separate collected organic waste is polluted with other waste fractions. One of the main polluters is regular plastic bags in which organic waste is collected. The Friszak is a concept for a non-leaking biodegradable bag for the Frisbox. The bag has a perfect fit in the Frisbox and a cord to close off the bag and transport the bag to a public container.

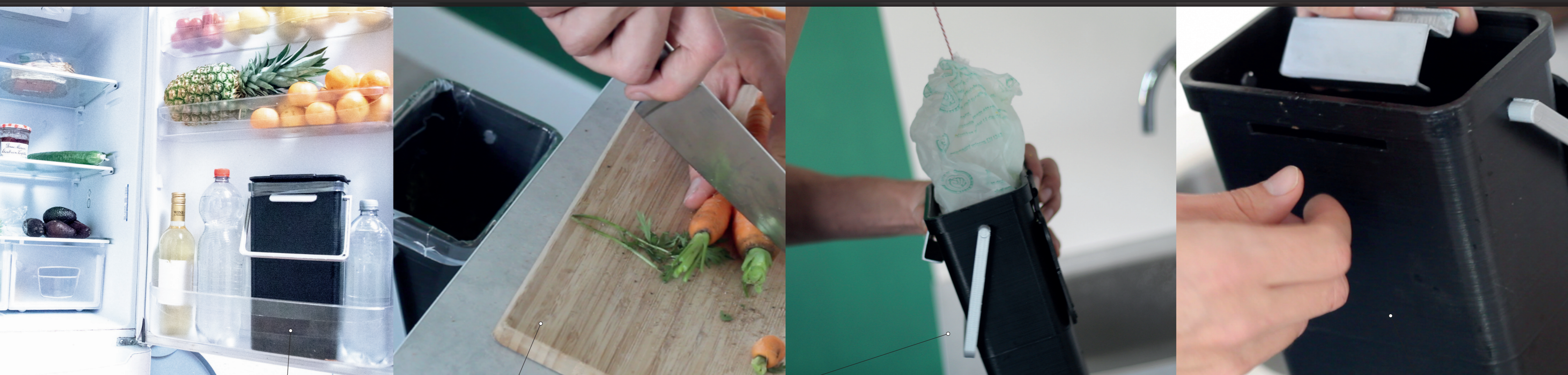
### Why focus on organic waste in high-rise areas?

35% of all domestic waste in the Netherlands is organic waste. This thereby forms the largest part of all domestic waste. By 2023, all organic waste must be recycled or separately collected at its source, according to EU law. The Dutch government has set the separation target at 75% by 2020.

### The Hague is used as a case study for the Frisbox

60% of the Hague's inhabitants live in high-rise buildings and currently only 37% of all domestic waste was separately collected at the source, which is below the Dutch average of 56% (2017). This makes the Hague an interesting case study with high potential.

The amount of separately collected waste at the source could increase with 10% with the Frisbox. The condition for this is that all flat inhabitants in the Hague will separately collect their organic waste at the source with a Frisbox and dispose of the Friszak in a public container.



The flatinhabitant buys food at the store and creates organic food waste.

The Frisbox can be stored in the door of the fridge.

During cooking the Frisbox can be mouted to the kitchen cabinet or drawer.

The flatinhabitant can walk with the Friszak and other collected waste to the public container.

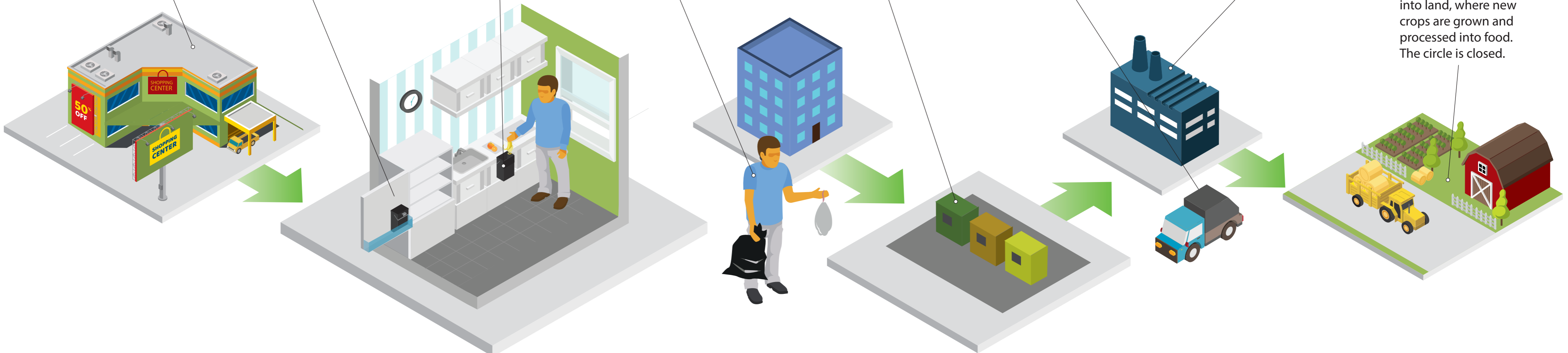
The organic waste will be separately collected in public containers.

Waste collection companies will transport the organic waste to industrial digesters and composters.

The organic waste will be processed into other compost and biogas.

All parts of the Frisbox are replaceable and by end of life recycleble.

The compost goes back into land, where new crops are grown and processed into food. The circle is closed.



Bart Krijgsman

The design of a sustainable, hygienic and low-effort bin to collect and store organic waste in high-rise buildings  
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### Committee

Chair: Prof. dr. Balkenende, A.R.  
University mentor: Ir. van Sinderen, M  
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