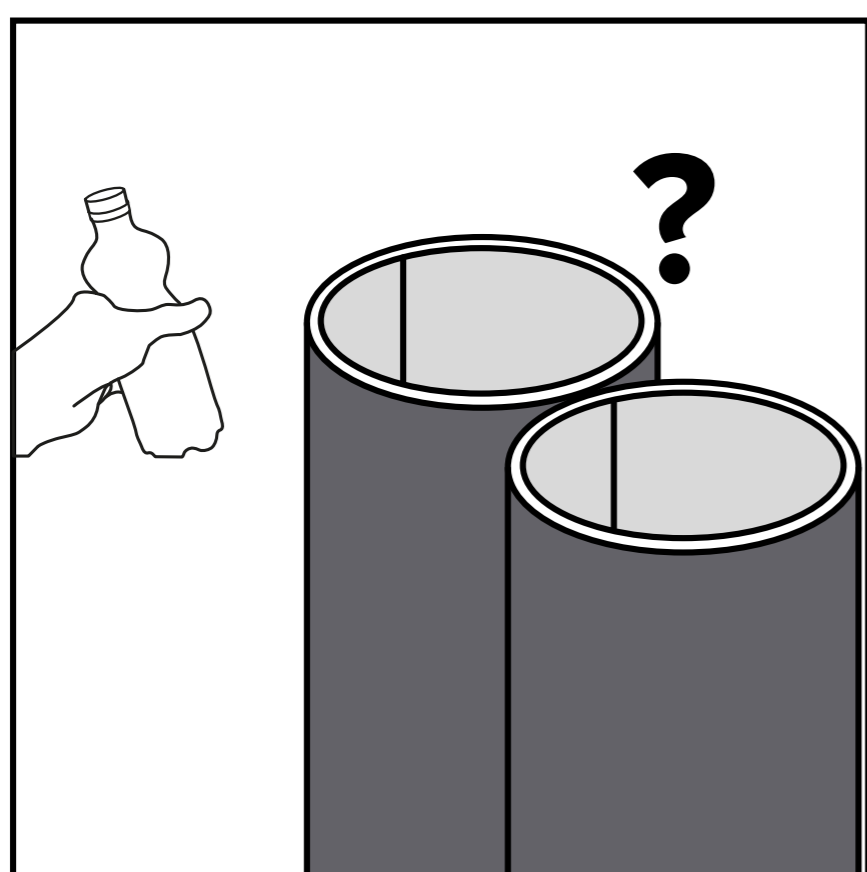


meet kodi

THE PROBLEM

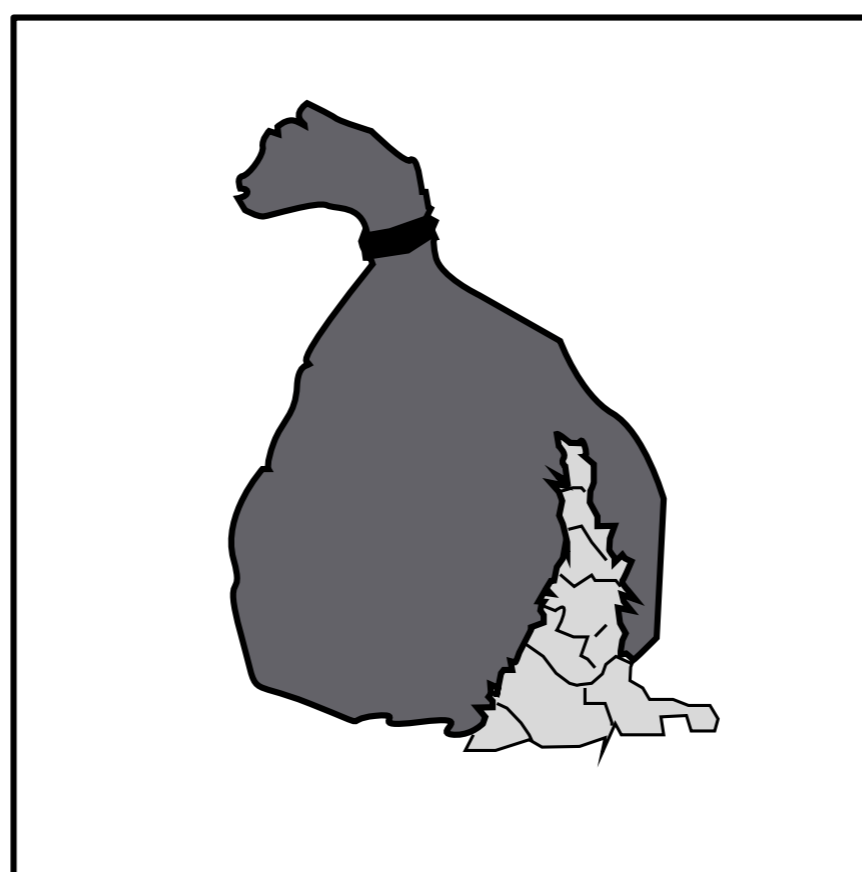


LACK OF KNOWLEDGE

In 2016, the UK produced **27 million tonnes** of waste!¹

The recycling rate for household waste was just **45%**!¹

7.7 million tonnes of biodegradable waste was sent to landfill, making no improvement on 2015.¹



HASSLE



SUSTAINABILITY

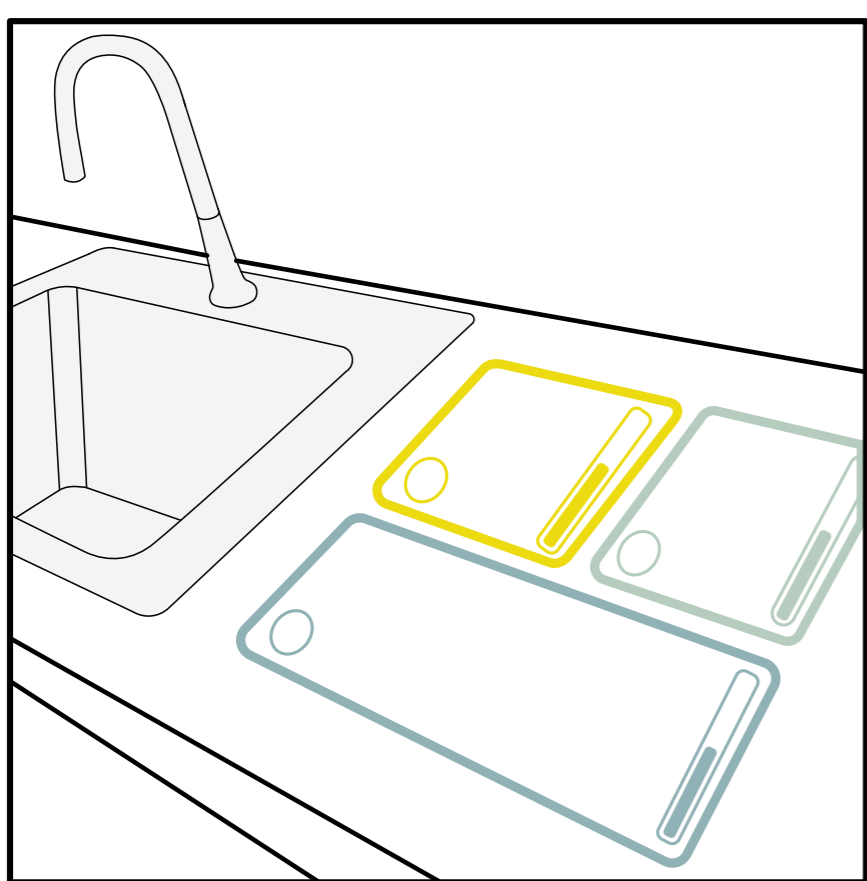
ASSUMPTIONS

We are designing for:

- 1 The world in 10 years time
- 2 New cities
- 3 New build apartment blocks

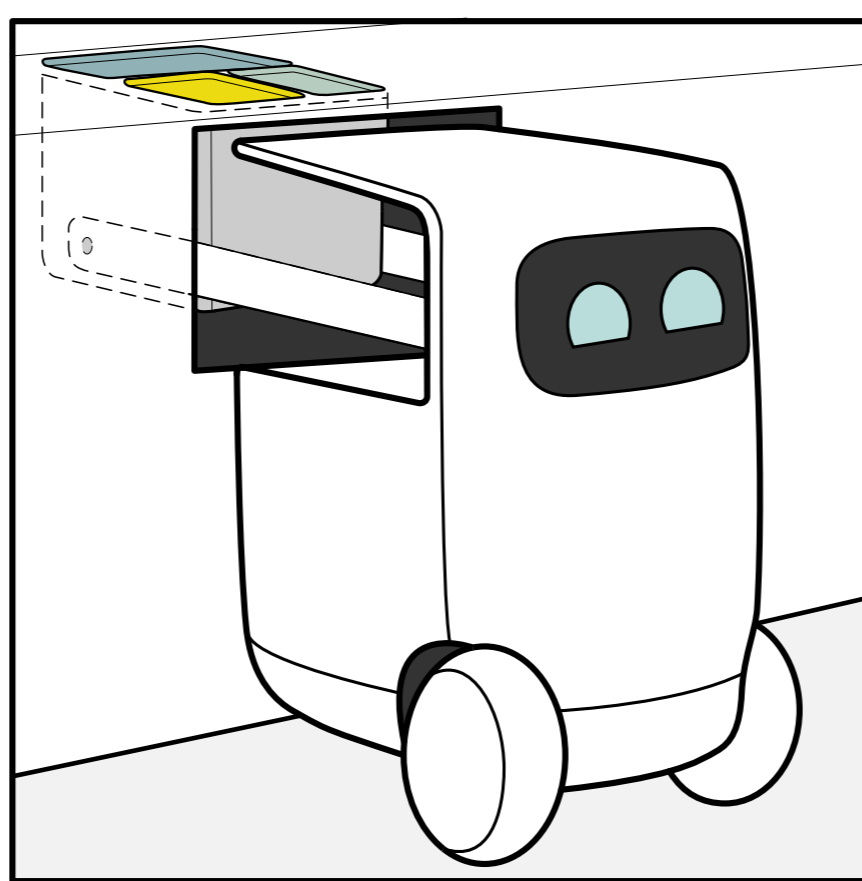
THE SOLUTION

VALUE PROPOSITION



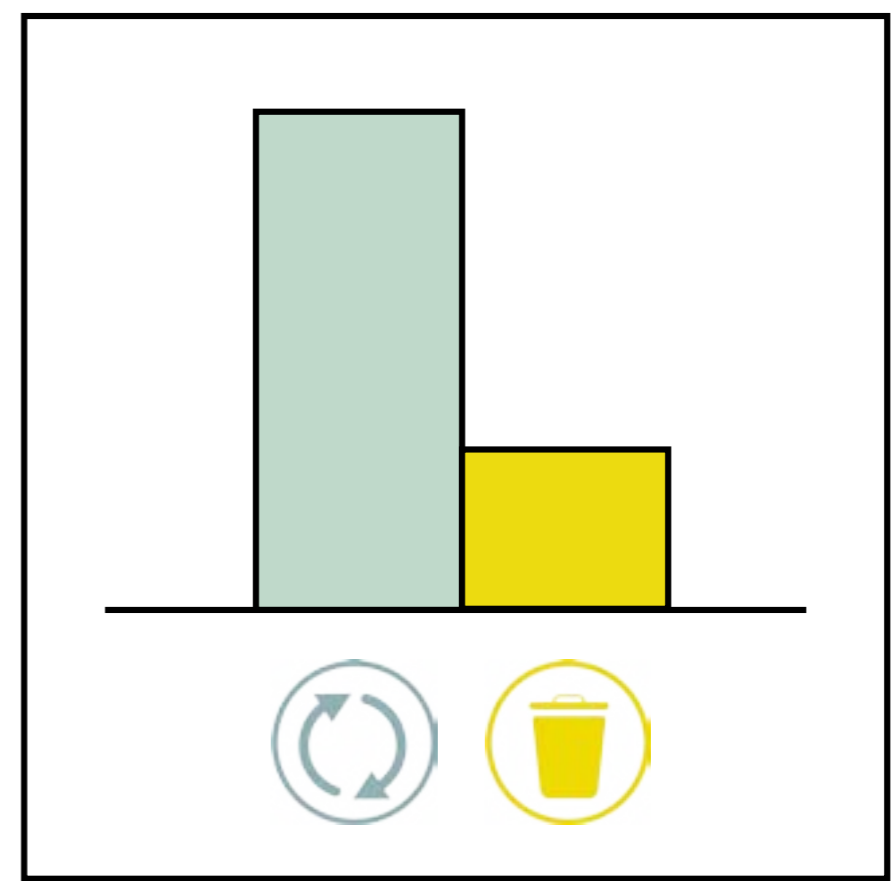
INTELLIGENT

Learns & adapts to your waste habits



EFFORTLESS

Never take out your waste again



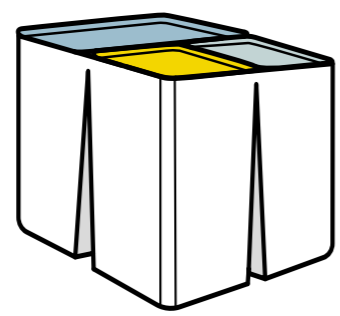
SUSTAINABLE

Gamification & feedback reduce waste

COMPONENTS

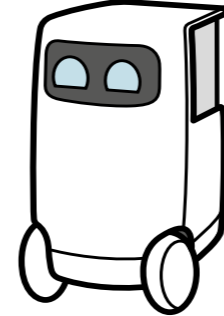
1 THE KODI CADDY

The Caddy is a refuse receptacle that sits within the kitchen.



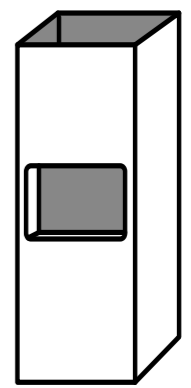
2 THE KODI CONCIERGE

The Concierge is an autonomous robotic waste collector.



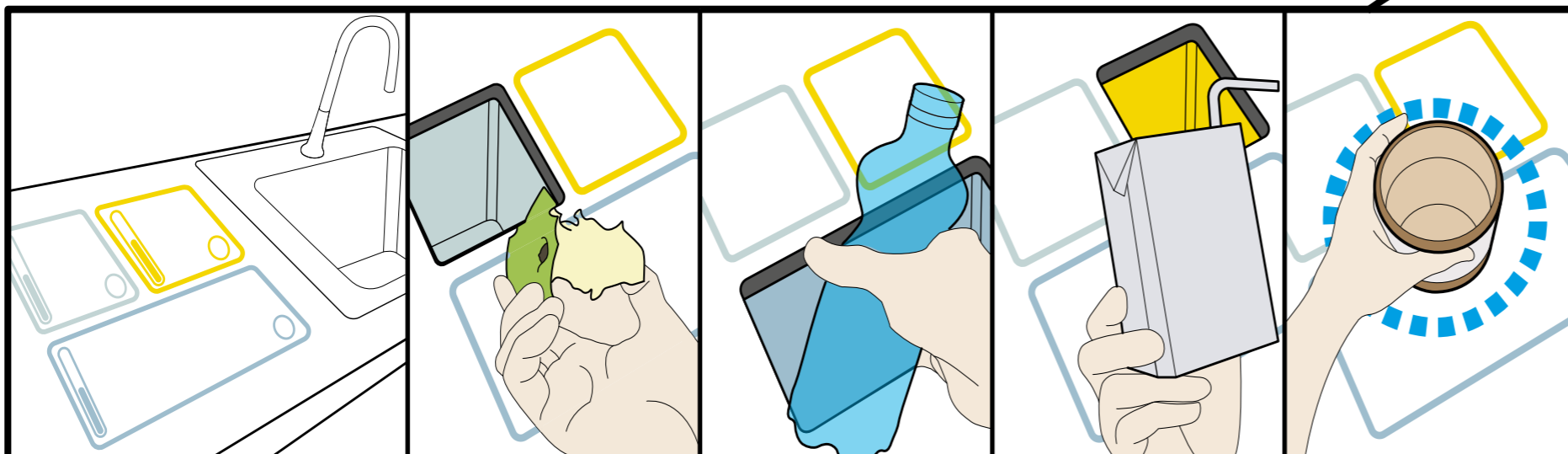
3 THE KODI CHUTE

The waste is dropped off into the Kodi Chute.

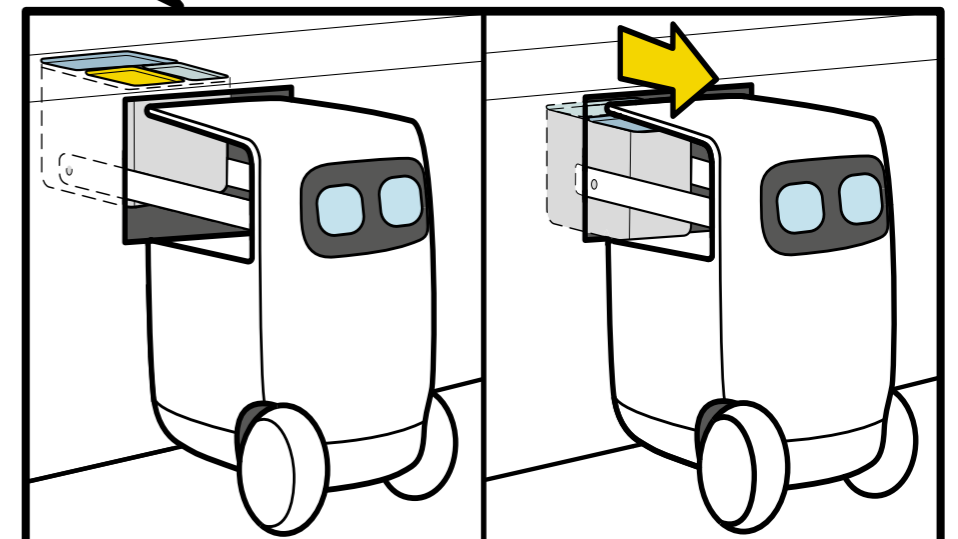


STORYBOARD

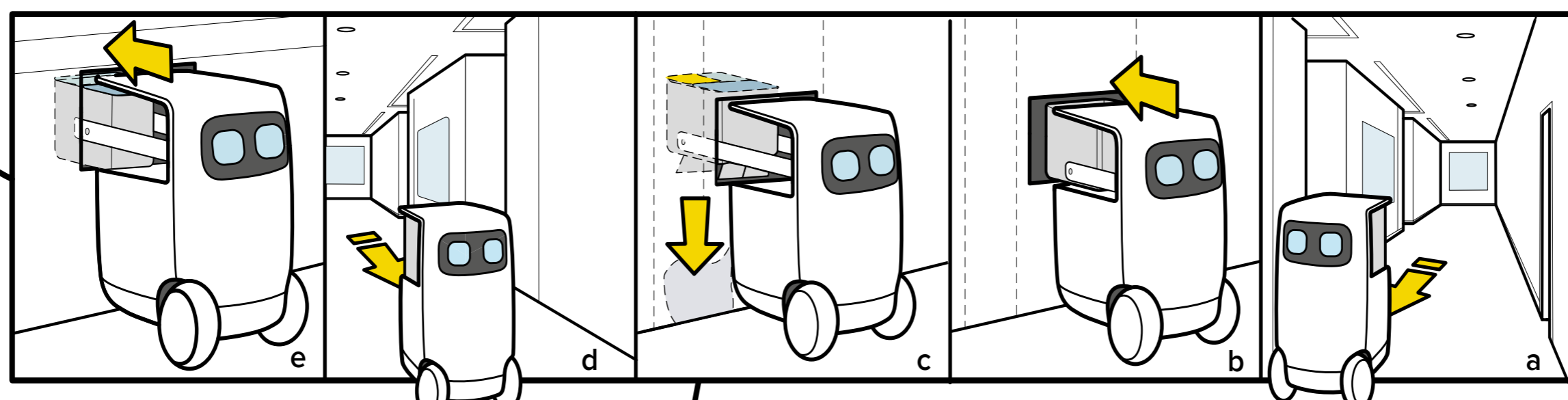
1. User puts waste into the caddy



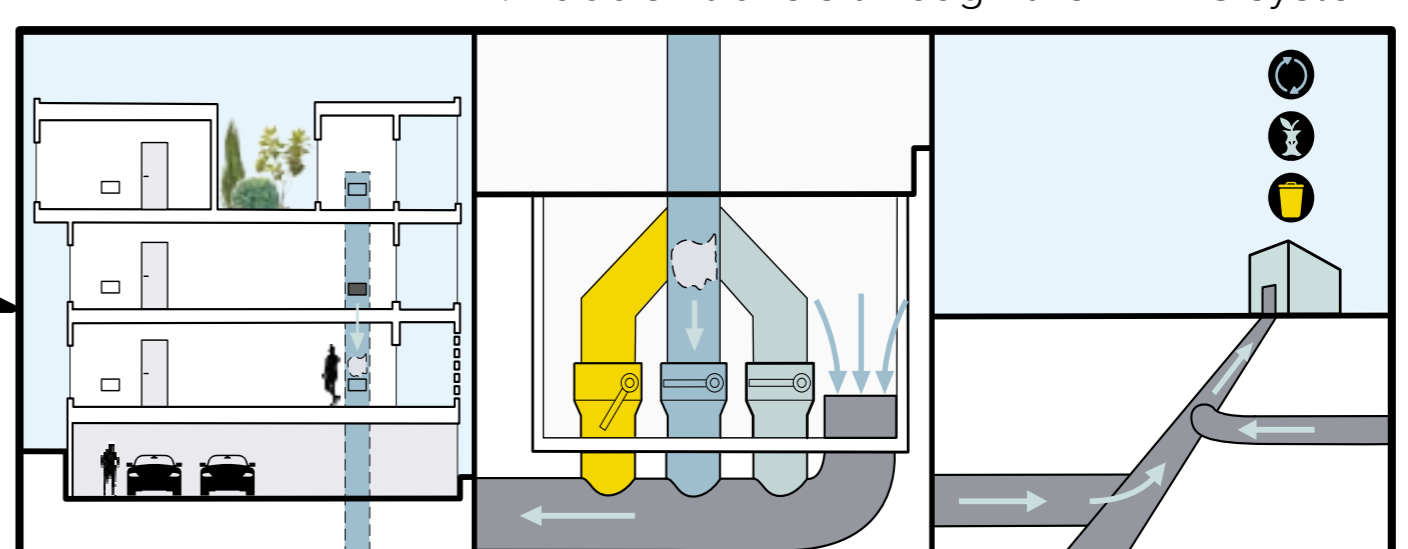
2. Concierge collects the caddy



3. Concierge empties rubbish into the chute and returns the empty caddy to user

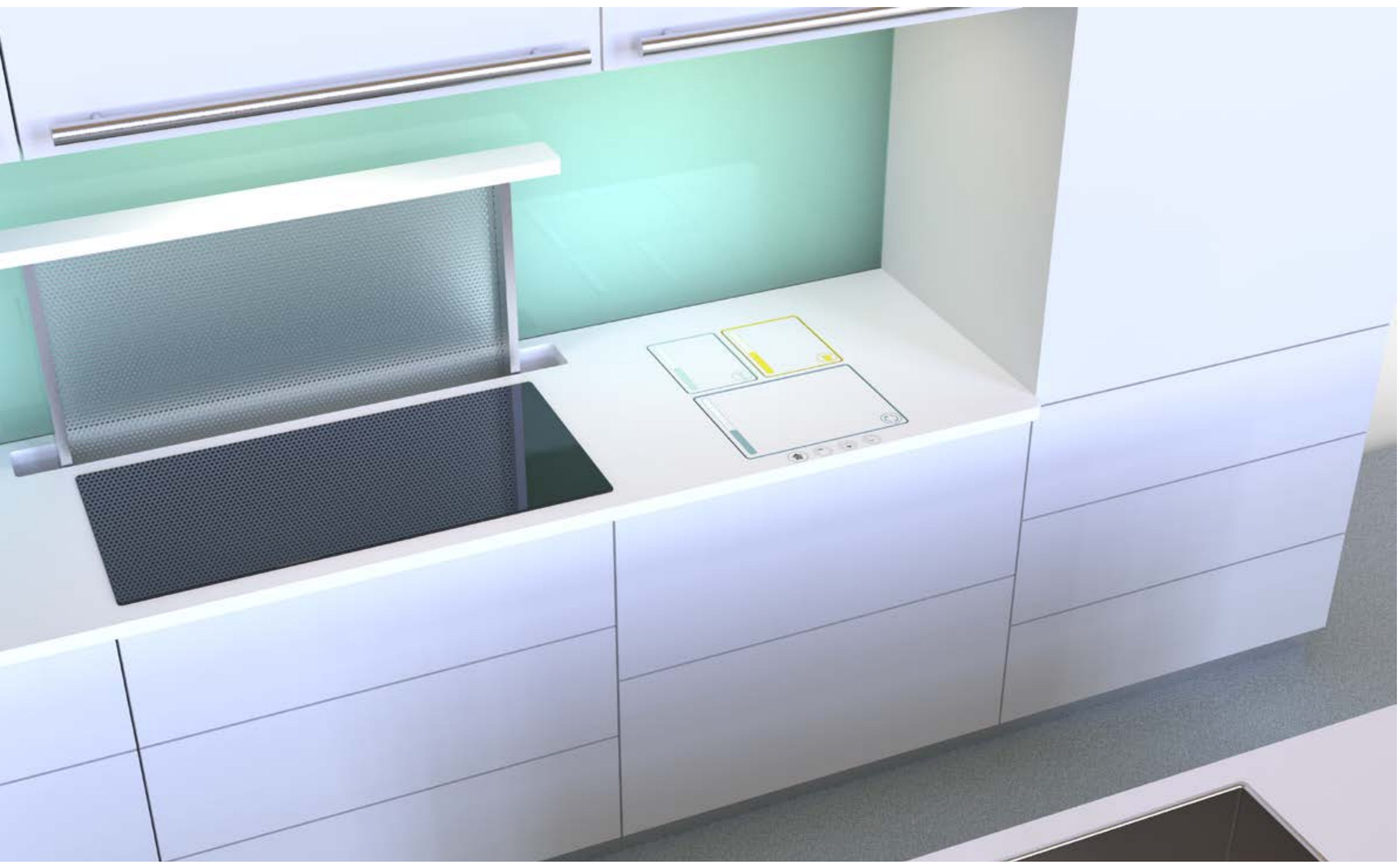


4. Rubbish travels through the AVWC system



IN THE KITCHEN

The Kodi Caddy is integrated under the counter-top. The interface is projected onto the sliding lids for the user to interact with.



KODI CONCIERGE

The Kodi Concierge is an autonomous robot that takes out rubbish. It carries the Caddy from the kitchen to the Chute. It travels between floors using the lift.



Facial expressions allow the Kodi Concierge to communicate with residents

Two large wheels and a smaller one allow traversal of carpet and hard flooring whilst facilitating a tight turning circle

Rubberised base protects the Kodi Concierge from any knocks and scratches

Illuminated wheel arches make Kodi visible from a distance

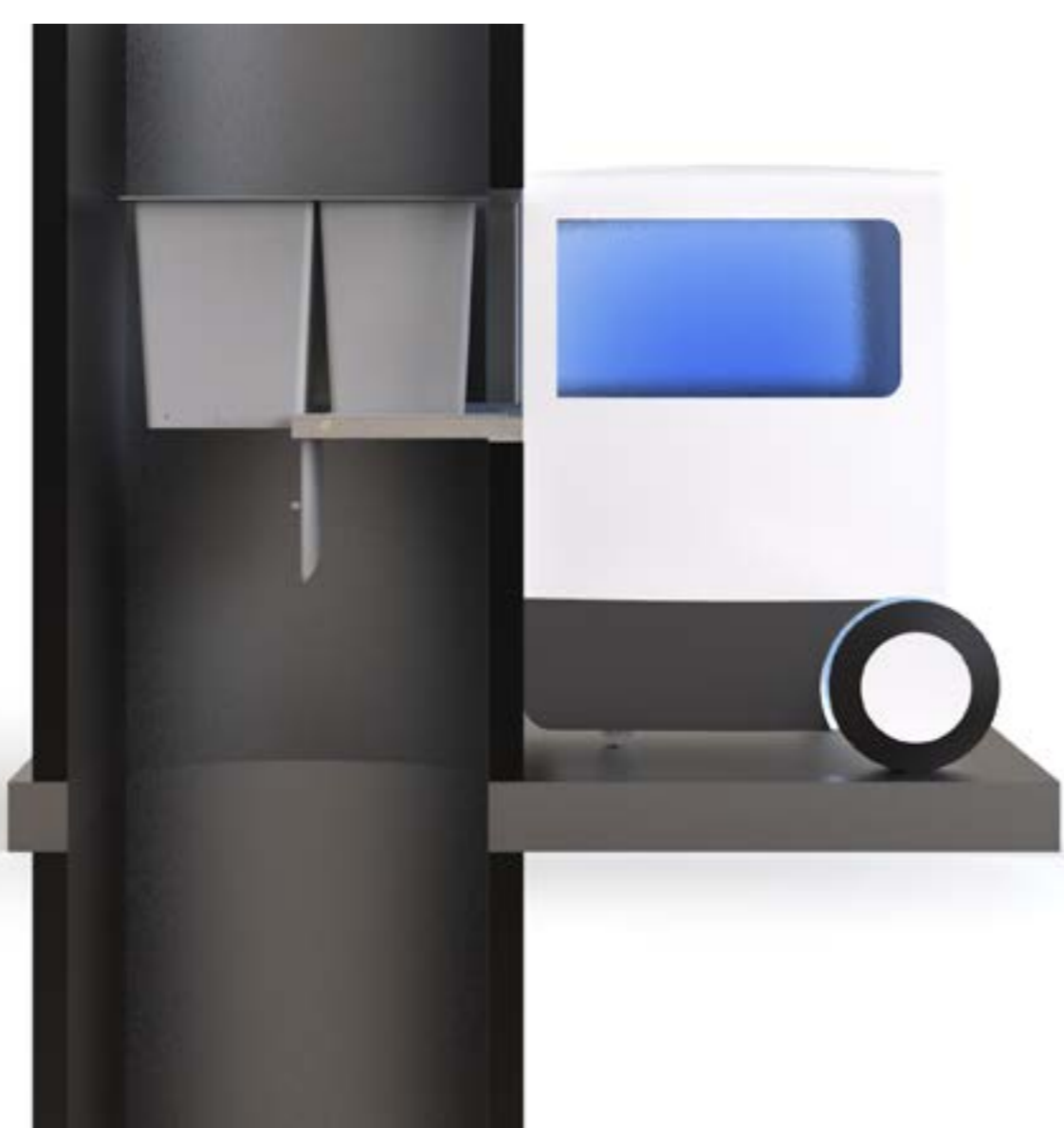
Sliding front panel covers the Caddy to lock it in, containing odours

Frosted polycarbonate panels create a more spacious feel and show if a Caddy is inside



Locks allow the Concierge to latch onto the wall when collecting and disposing of waste, reducing the risk of unwanted access

EMPTYING THE CADDY INTO THE CHUTE



REMOVING THE CADDY FROM THE KITCHEN



future context

ROADMAP

	NOW	5 YEARS	10 YEARS	20 YEARS	50 YEARS	100 YEARS
WASTE	UK recycling rate was 44.3 % in 2015, commingled waste system ¹	Increase in compostable packaging ⁷ .	Most packaging is mono-material and recyclable, soft plastics can be recycled.	Legislation ensures sustainable packaging and products.	Reductions in crude oil based products and landfill use.	Fully sustainable packaging, landfill eliminated waste seen as a valuable commodity.
CITIES ¹⁸	Existing cities experience overloaded infrastructure and housing shortages.	New urban areas are being planned, focusing on the residents' well-being.	Focus shifts to environmentally friendly infrastructure as climate change becomes more evident. Almost 66% of people will live in urban areas.	Residents of the new locations enjoy a healthier environment.	The second generation of 'new cities' is planned, improving on existing ones.	Cities are designed with sustainability as the priority.
ROBOTIC PORTERS	Inelegant first attempts have been made such as Gita ¹⁹ and SAM ¹⁵ .	Robots like Gita will start entering markets where they are most necessary such as medical care.	Robots are in development for use as apartment block porters.	The new robots begin to penetrate the market, starting with the luxury and care markets.	A fully functioning robotic porter is in popular use in some apartment blocks.	Many jobs are replaced by robots.

NEW CITIES



SWEDEN

99% of household waste is recycled. Waste is separated in homes and deposited at recycling stations that are no more than 300 metres from residential areas⁷.

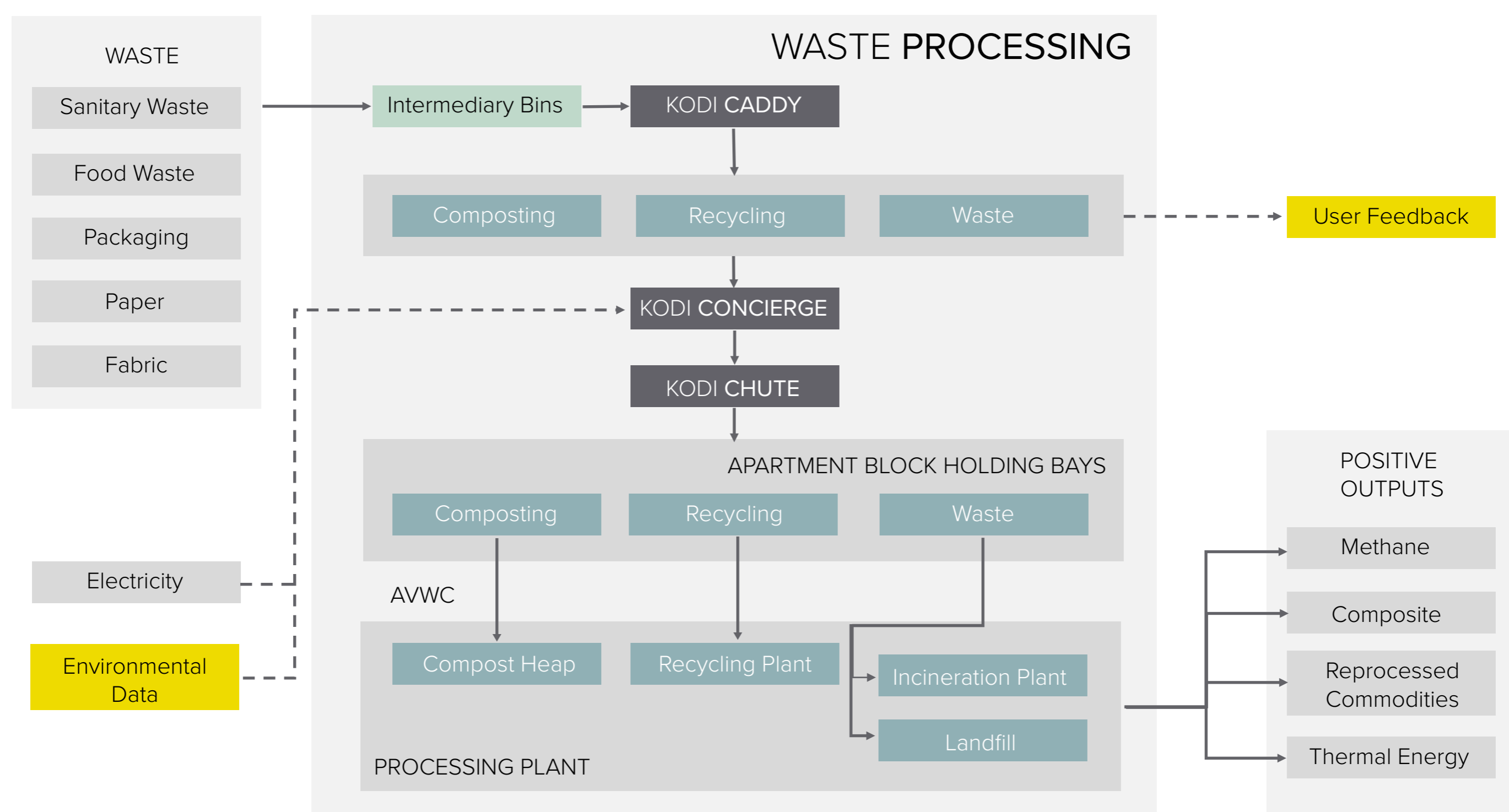
NEOM CITY

Saudi Arabia to invest \$500 billion in fully automated city on the Red Sea coast. It will be an independent zone, with its own regulations and social norms¹².

PROPOSED NEW CITIES

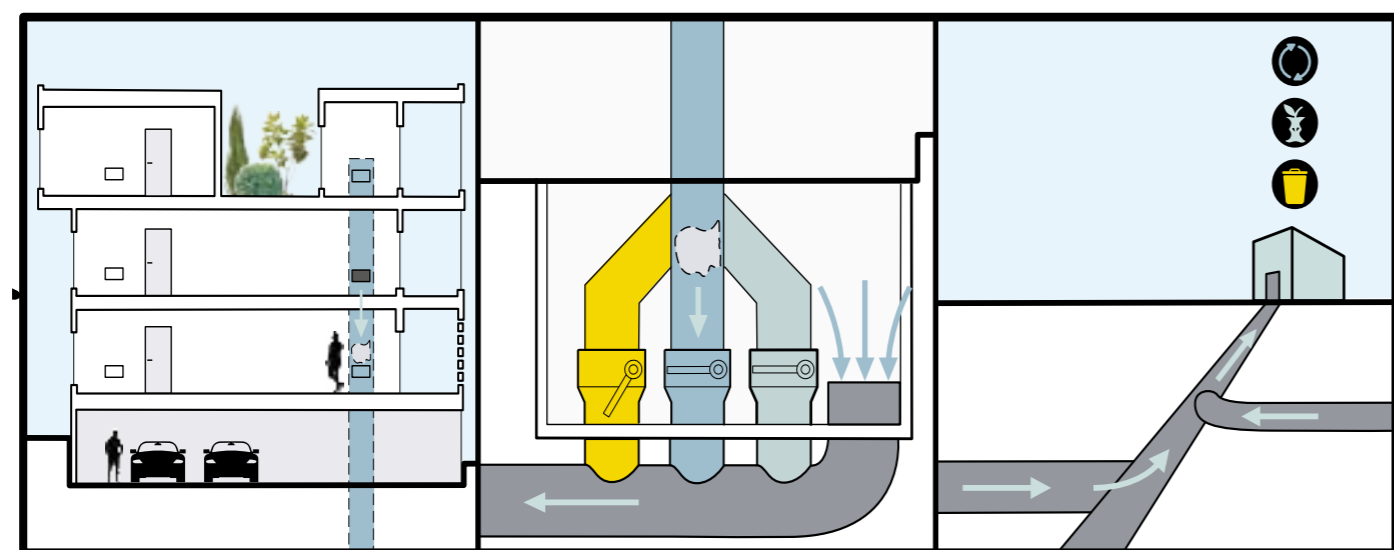
- Destiny, Florida, USA⁸
- Konza Techno City, Kenya⁹
- Sunqiao Urban Agricultural District, China¹⁰
- Gujarat International Finance Tec-City, India¹¹

THE SYSTEM



AUTOMATED VACUUM WASTE COLLECTION

AVWC is an efficient alternative to traditional rubbish truck collection in urban areas. A network of underground tunnels channels refuse to a sorting plant. Once the waste reaches the sorting plant, it can be taken to the relevant processing plants for any further treatment, including recycling and incineration.



WEMBLEY CASE STUDY

The AVWC system has saved over 400 tonnes of CO₂, reduced waste collection movements by 75% and doubled recycling rates.

TRUCK COLLECTION



AVWC SYSTEM



Just one of more than 1000 locations in which AVWC has already been implemented.

TARGET MARKETS

YUPPIES

BENEFITS FOR USER
Make lives more efficient
Relieves busy schedule
More leisure time

OPPORTUNITIES
Good at adopting new technologies
Disposable income

BARRIERS
Is it likely that an entire tower block would be full of Yuppies?

AGING POPULATION

BENEFITS FOR USER
Less reliance on carers
Increased independence
Extend time living at home

OPPORTUNITIES
The aging population is growing exponentially

BARRIERS
Less likely to adopt to new technologies

FAMILIES

BENEFITS FOR USER
Alleviate time stress
Keep the kitchen tidy
Improve hygiene

OPPORTUNITIES
With more people in the house, small chores like this seem less of a burden

BARRIERS
Not seen as a necessity

STUDENTS

BENEFITS FOR USER
Improve hygiene
Ease the transition from home to living independently

OPPORTUNITIES
Applicable to student halls where people live in a similar setting

BARRIERS
Tight budget