

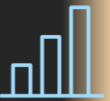
SNAP4WASTE



Optimize waste management in urban environments using AI



Bins



Prediction



Optimisation



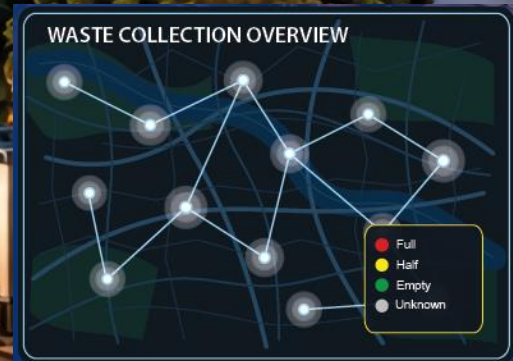
Live Monitoring



Efficient



Agentic AI



BIN FILL LEVEL

78%

Plastic - Zone A



© Snap4City, Nov. 2026



MONITOR & PREDICT

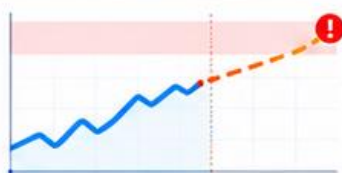
Live bin status



- Fill levels
- Waste streams
- Sensor alarms

Readings depend on installed sensors.

Collection forecasts



Prioritize bins before overflow.

Route planning



- Capacity
- Waste type
- Travel time

Driver app



CONNECT & IMPROVE

Citizen services

- Report an issue
- Request bulky-waste collection

PAYT support

- Access permissions
 - Identification + quantity data
- Requires suitable equipment.

SnapAdvisor Copilot Optional integration

- Which bins could overflow today?
- Review fill forecasts and suggest collection priorities.

- Live data
- Bin history
- Route scenarios

Operational analytics



Routes • Service KPIs • Collection records



Bin data • Early warnings • Collection priorities



Dynamic routes • Fleet assignment • Proof of service



Citizen engagement • PAYT support • AI insights



One operational view of bins, fleets and collection services.

Open APIs • ERP, GIS & billing • Multi-city operation



01

MONITOR

Real-time status of bins, trucks, routes, incidents and KPIs



02

PREDICT

AI-driven forecasts for fill levels, collection needs and anomalies.



03

OPTIMIZE

Smart routing and dynamic collection planning.



04

CONNECT

Integrate with existing systems, apps and city services.

ERP

GIS

PAYT

APIs

05

ACT

Enable operators and field teams with the right informations.



Mobile App



Control Room



Reports

06

ASSIST

Ask the Agentic AI. Get insights, recommendations and reports.

Which bins need collection first?



46 bins with generic waste have risk of overflow. The optimised routes for the truck fleet have been produced and are available in the Routes planned dashboard ([click here to open](#)).

- **Snap4Waste** optimizes waste collection and management in urban environments by AI.

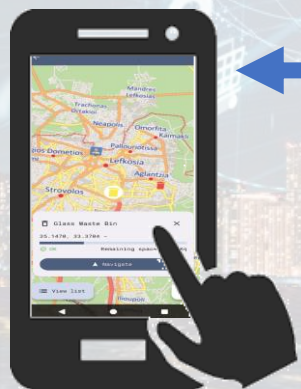
- collects data from bins, and/or trucks
- offers operational efficiency

- **Snap4Waste** is modular and allows to start small and scale up as needed reducing initial investments.

- **Snap4Waste** supports a range of sensors, devices, and functionalities



Snap4Waste Smart Waste Management System



Final Users on monitoring Waste bins on mobile app

Snap4Waste

User Registration

Bin Management

Sensor/Fobs Mng

Routing Optim.

Fleet Route Assign.

Route Usage

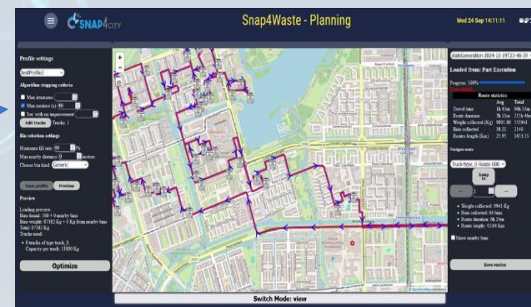
Permissions Mng

KPI Estimation

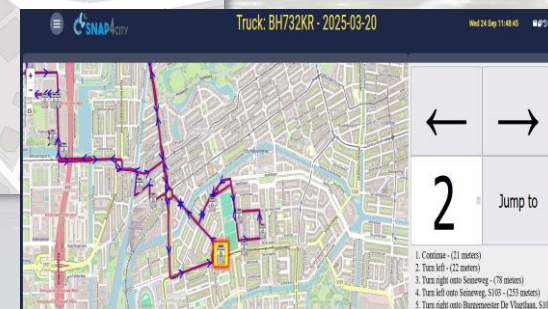
Alarms from Bins

Bin data Gathering

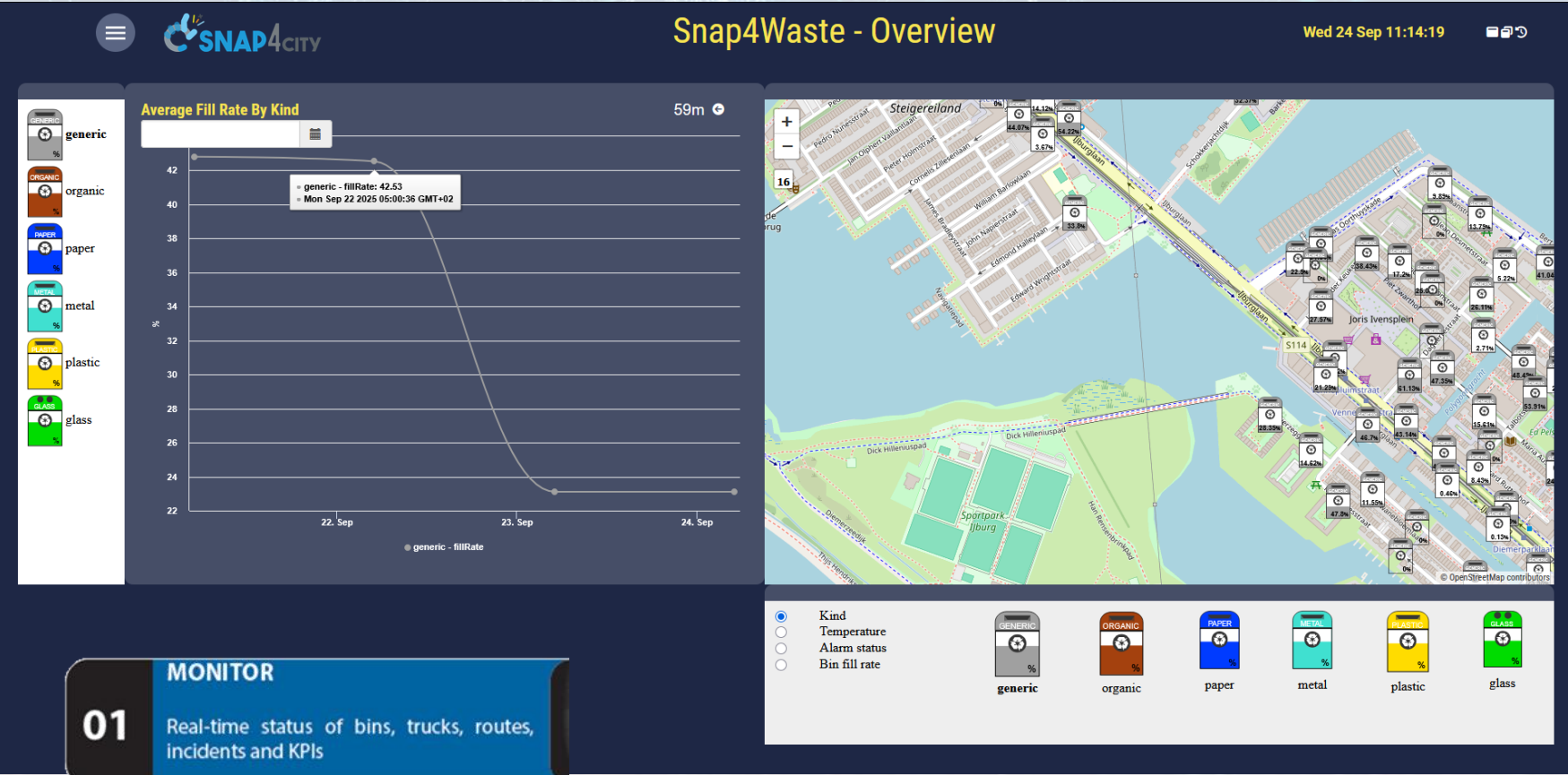
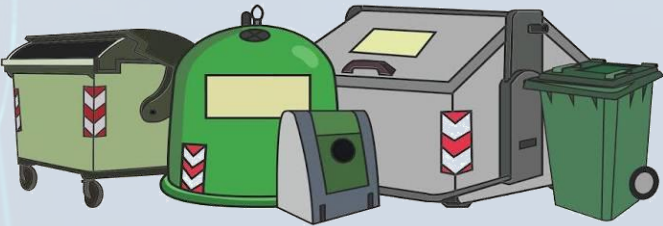
City Operator, Optimisation



Truck Operators



Live visibility across your operation



Bin status

View fill levels, waste types and sensor readings.

Operational alarms

Surface critical conditions such as fire, movement or low battery.

One control room

Monitor collection activity alongside routes and service KPIs.



01

MONITOR

Real-time status of bins, trucks, routes, incidents and KPIs

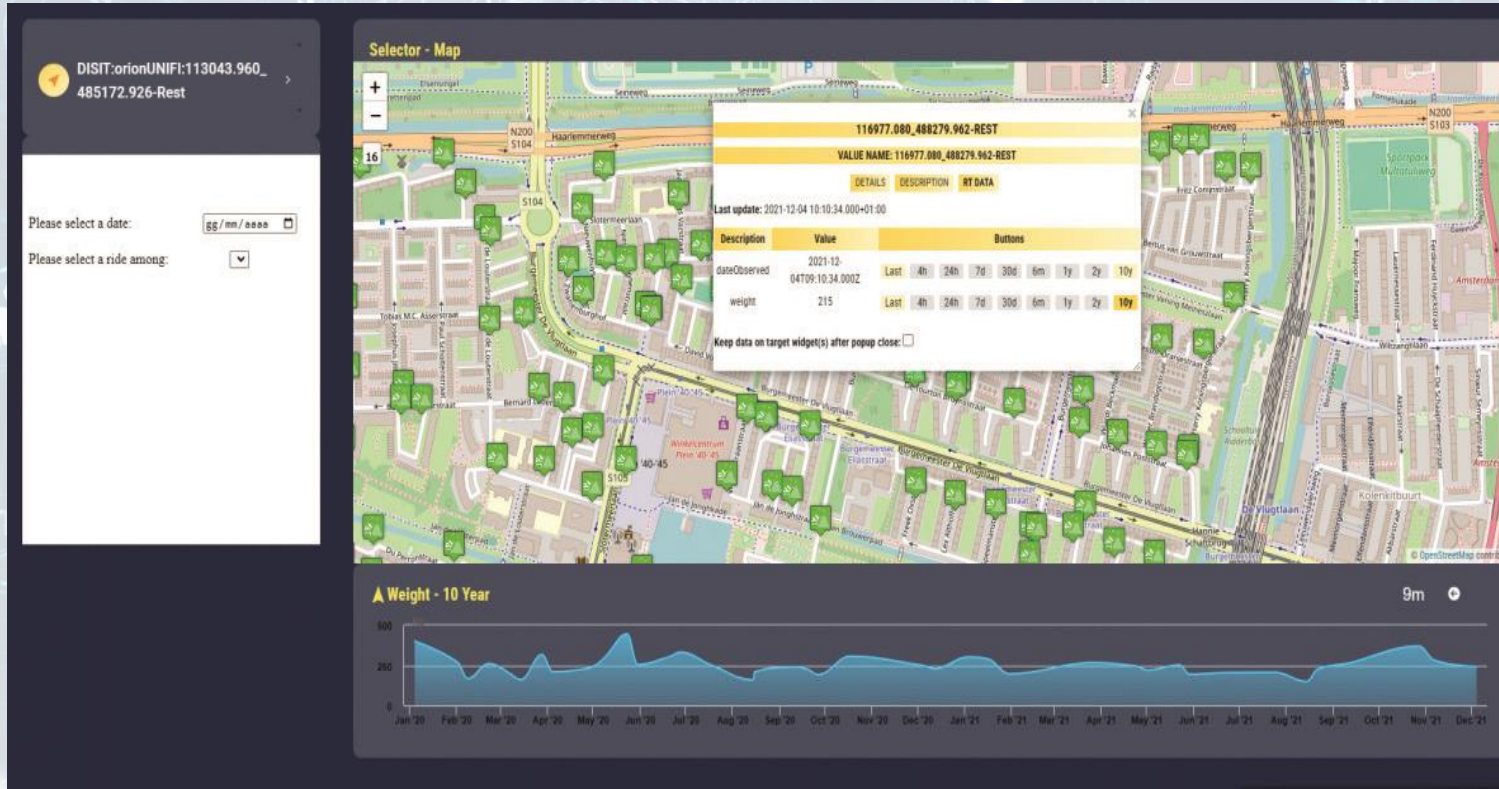
02

PREDICT

AI-driven forecasts for fill lvels, colection needs and anomalies.

Available readings and alarms depend on the sensors installed.

AI helps anticipate collection needs



Predict fill levels

Identify bins at risk of becoming full before the next planned collection.

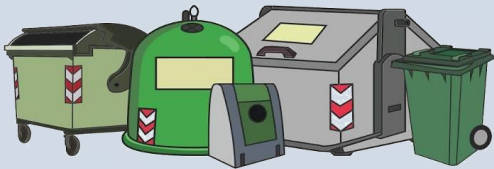
Set priorities

Use forecasts to decide which containers need attention and adapt the plan.

Bin history and collection view
Forecasts depend on the available bin data.



Routing Optimize around your service



Operational constraints

Depot locations

Truck capacity and fleet size

Bin locations and waste type

Travel times

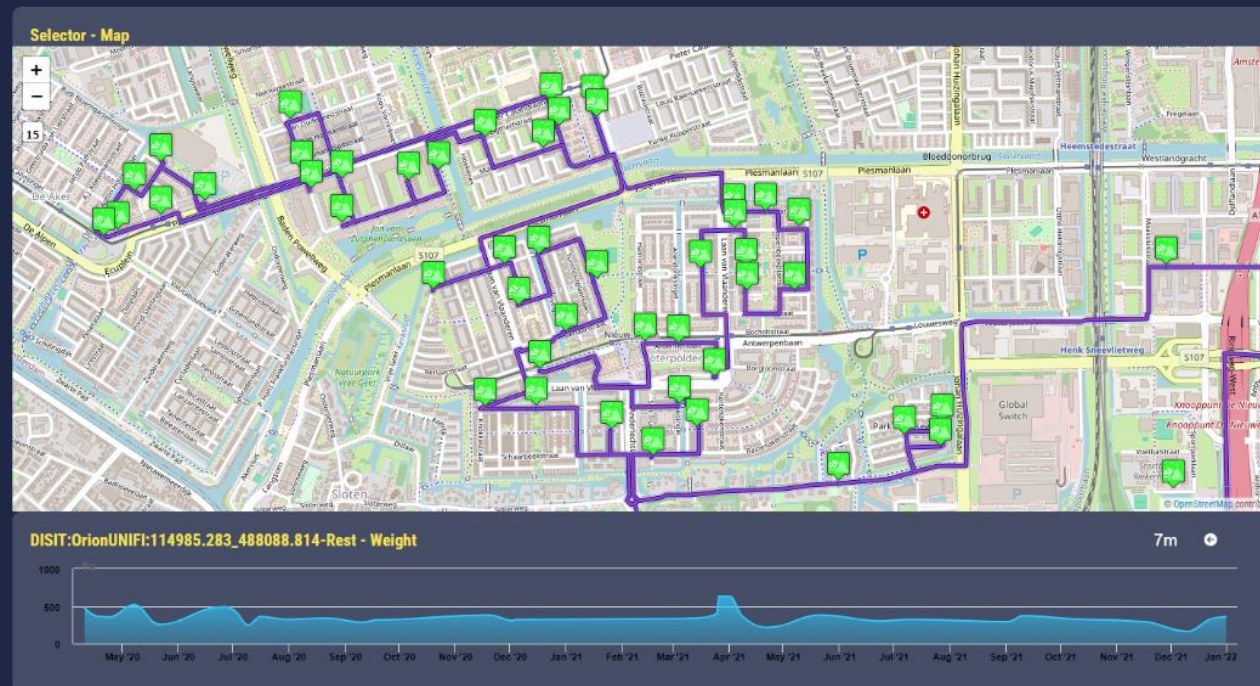


Flexible collection strategies

- Dynamic daily routing, scheduled collection and on-demand jobs.
- Multi-Objectives Optimization

03 **OPTIMIZE**
Smart routing and dynamic collection planning.

04 **CONNECT**
Integrate with existing systems, apps and city services.



Optimal Routing Plans

04 **CONNECT** Integrate with existing systems, apps and city services.

A modular rollout

Suggested approach

01

Set priorities

Select the area, waste streams and success measures.

02

Connect assets

Integrate the bins, vehicles and systems used in the pilot.

03

Run the service

Use monitoring and routing. Review outcomes with operators.

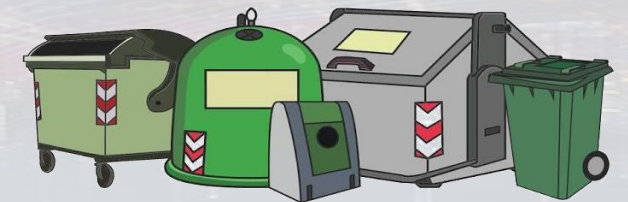
04

Scale the scope

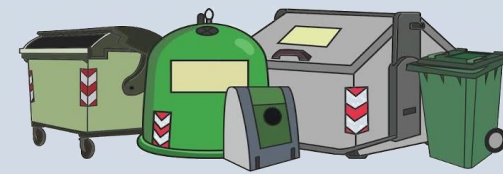
Add areas, fleets or waste streams as the service grows.

Measurable service goals

Compare kilometers, working hours, overflow incidents and cost per ton before and during the pilot.



Field teams follow the plan



Assigned collection jobs

Send planned routes to the truck driver or operator app.

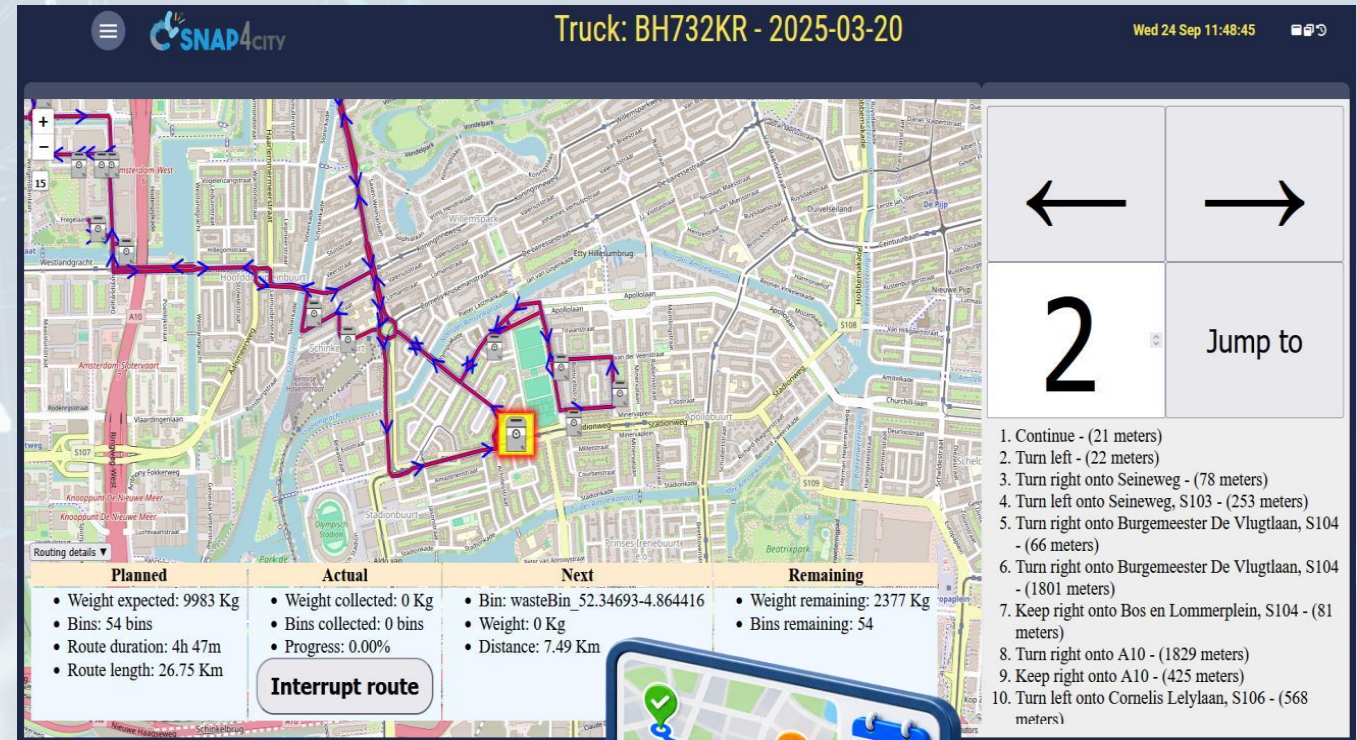
Navigation and progress

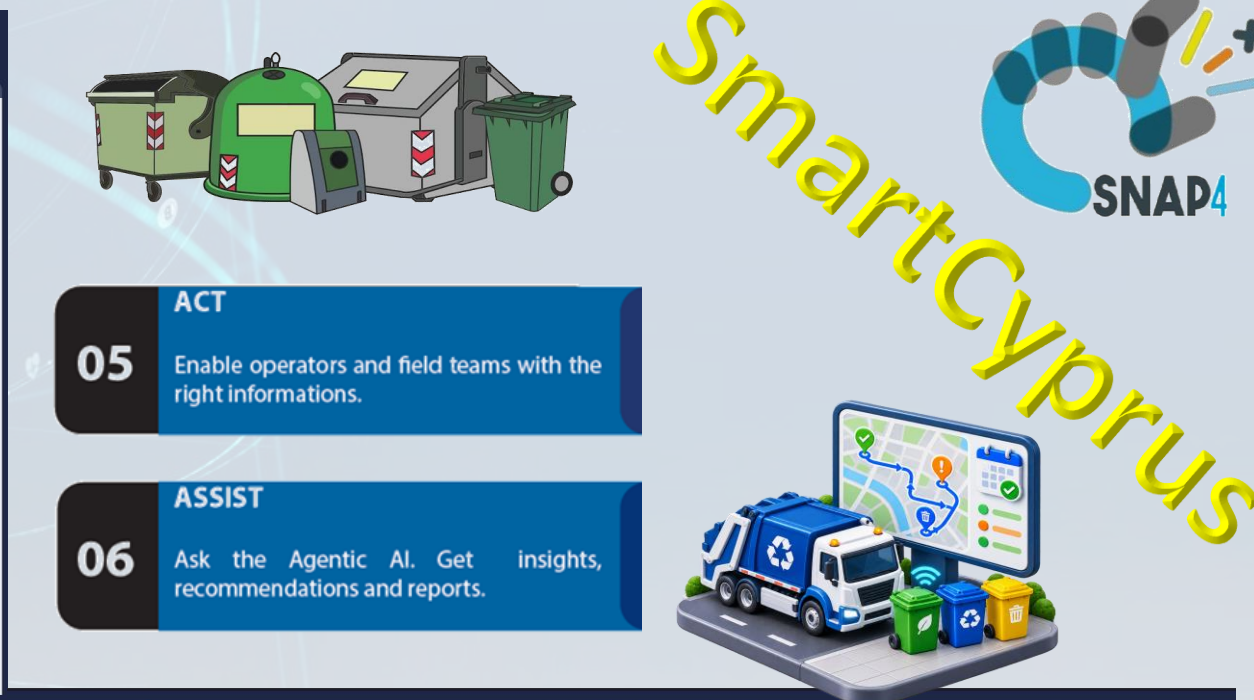
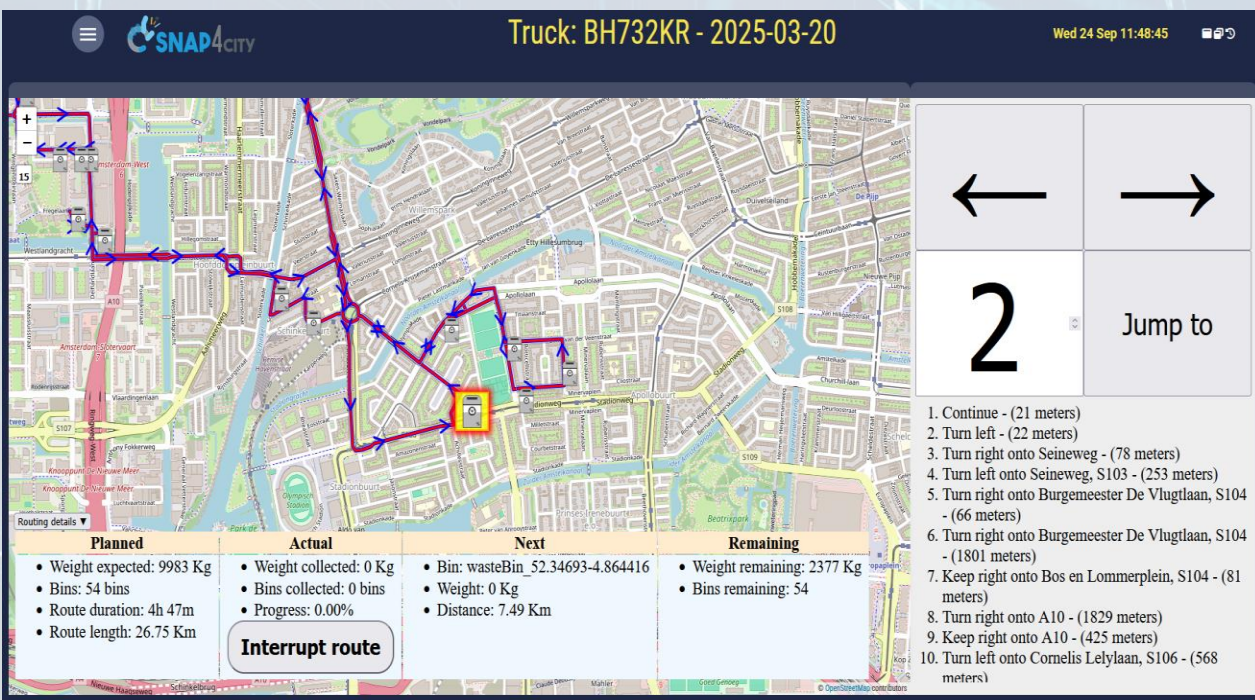
Guide the route and monitor planned, collected and remaining work.

Service records

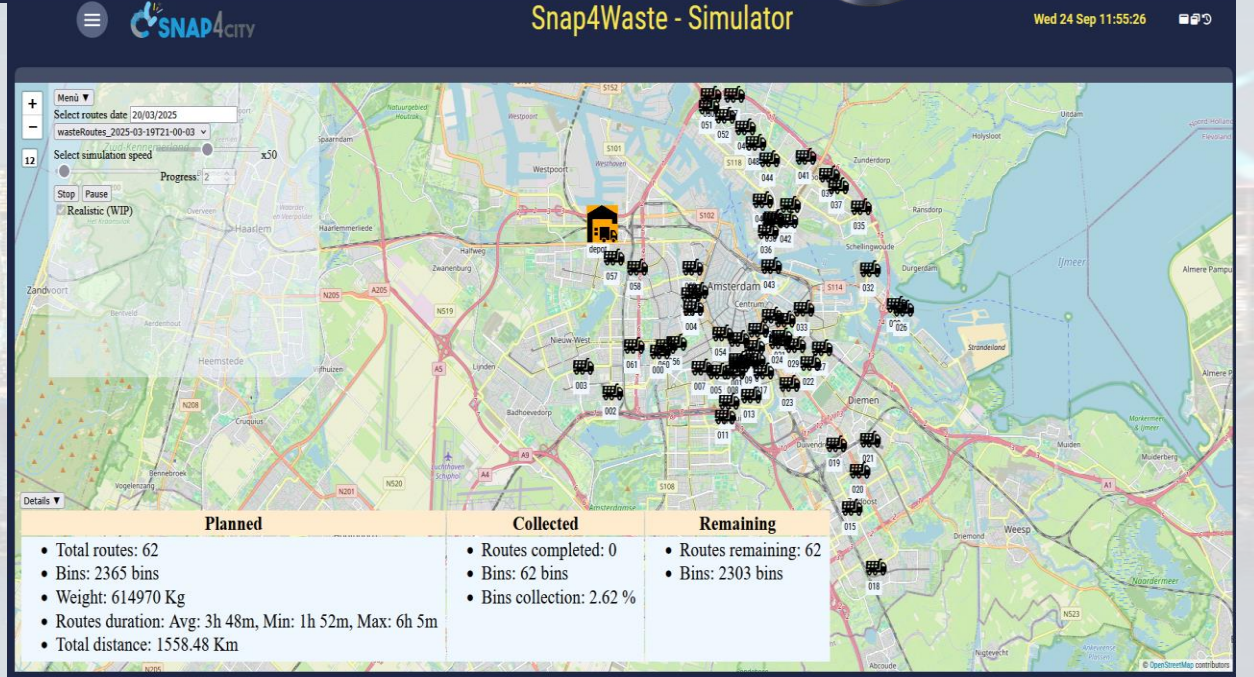
Capture collection evidence, photos and issues from the field.

Example driver view





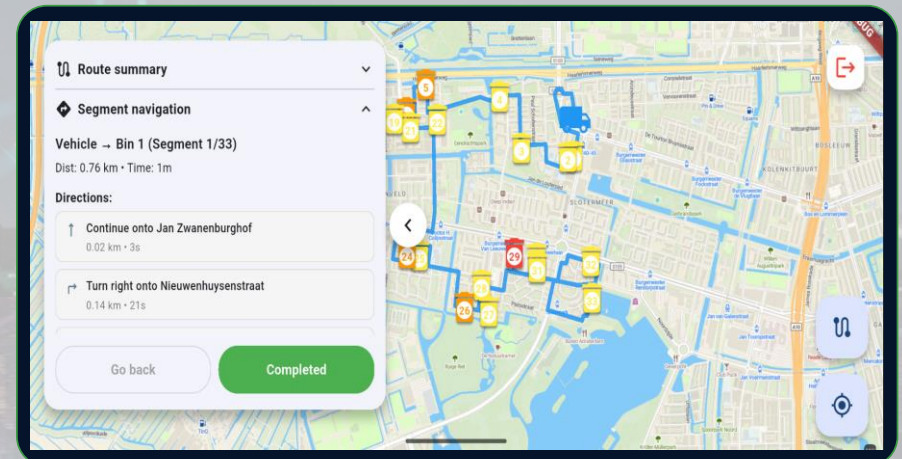
- Optimal Waste collection
- Above: Road Truck driver view
- Simulator of waste collection →

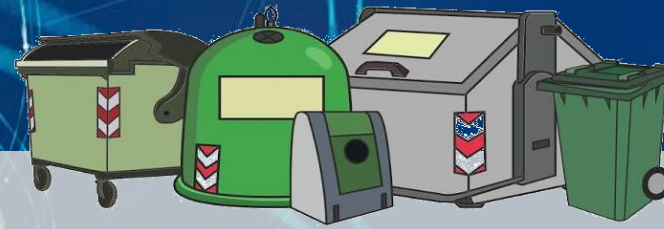


Put collection intelligence on the road.

Waste Collection on truck Operators

- Planned routes and dynamic routing by bin filters.
- Optimal following routing
- Fill-level data, bin details and navigation.
- Monitoring waste collection status and KPI
- Dinamical routing for small collection trips
- Completed stops and remaining collection work.
- **Connected with**
 - **Snap4Waste and Snap4Fleets**





Field teams follow the plan

Assigned collection jobs

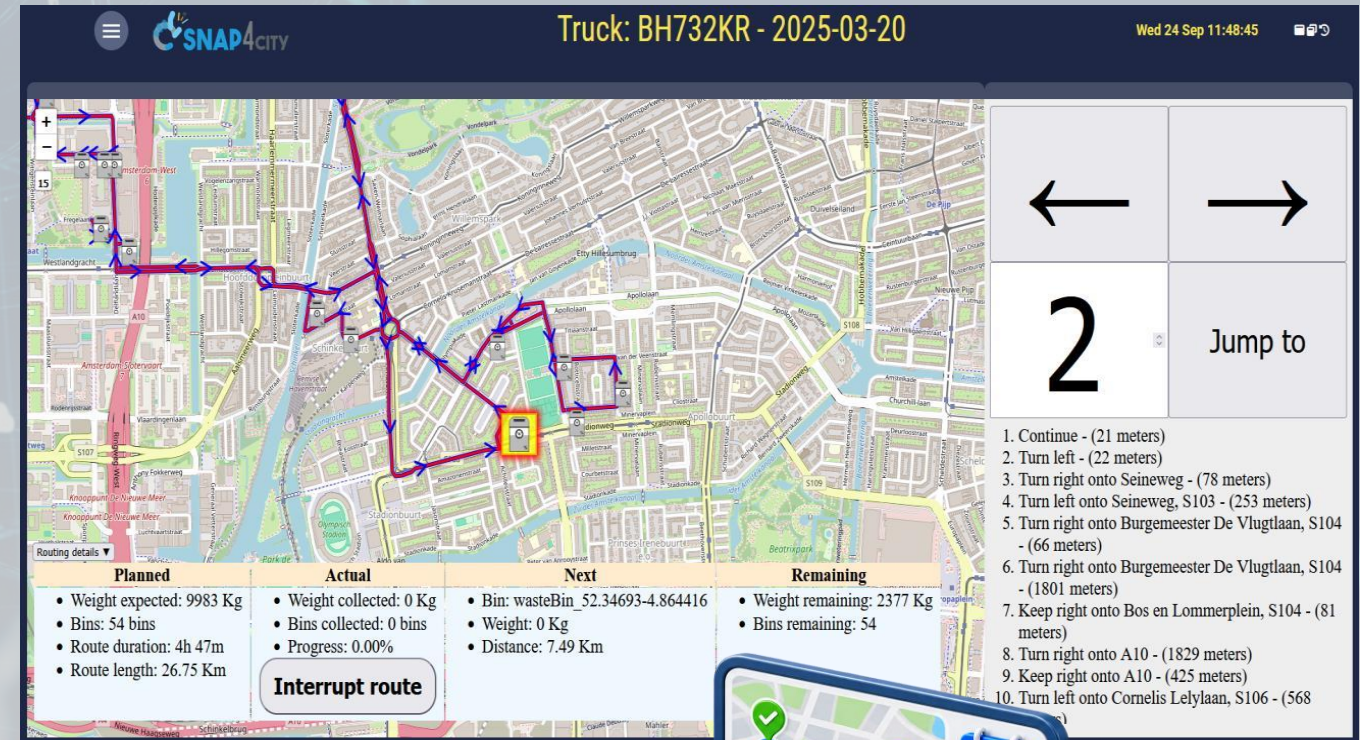
Send planned routes to the truck driver or operator app.

Navigation and progress

Guide the route and monitor planned, collected and remaining work.

Service records

Capture collection evidence, photos and issues from the field.

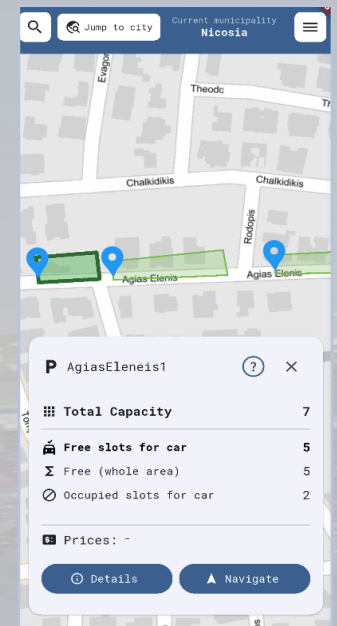
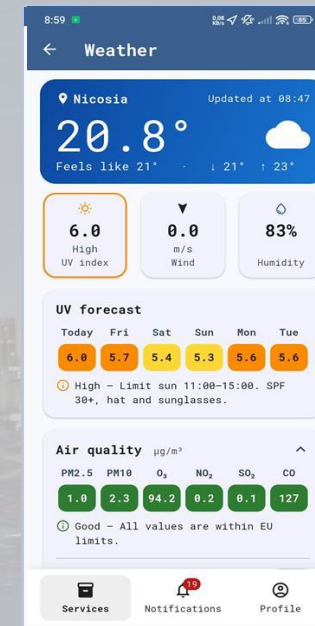
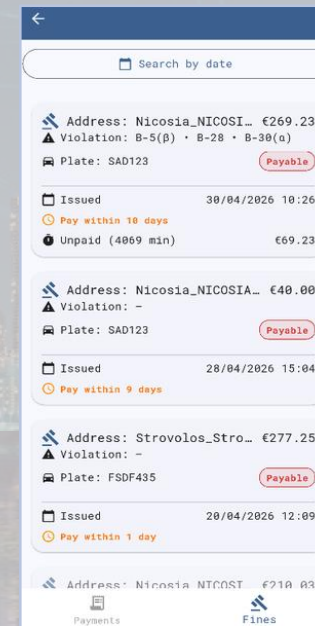
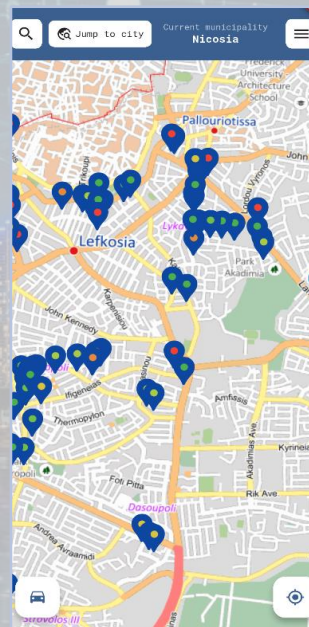


Example driver view



Multi Service Mobile Apps

- Parking
- Permissions
- Notifications
- Payments
- Participations
- Environment and Weather
- Monitoring: Waste, services
- Points of Interests
- Info Mobility
- Etc.





Collection based on actual need

Fewer unnecessary collections

Prioritize bins that need service.

Earlier overflow warnings

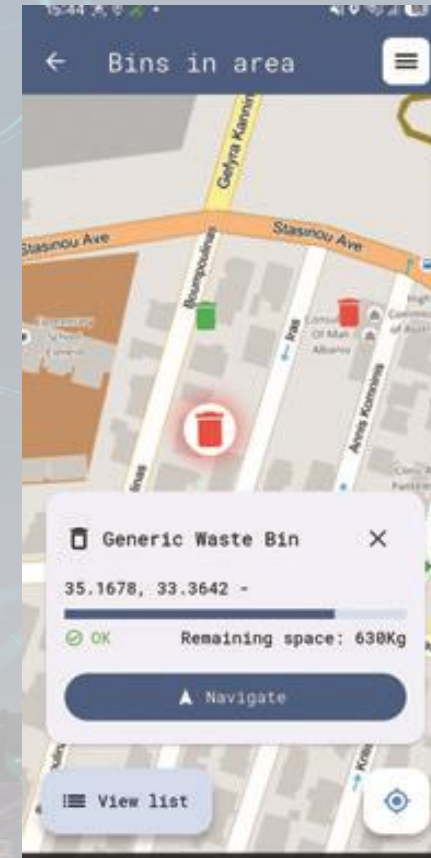
Anticipate fill levels and flag critical conditions.

Clearer proof of service

Track vehicles and record collection activity.

More informed operating decisions

Assess routes and service performance with operational KPIs.



Mobile view of local bins





Citizen services and PAYT support

Citizen services

Mobile apps and portals for service information, incident reports and bulky-waste requests.

Bin access permissions

Support commercial users with authorized access to containers.

PAYT support

Use identification and waste quantities to support Pay-As-You-Throw or Pay-As-You-Sort policies.

Volume or weight data

Quantities depend on the available sensors and collection equipment.

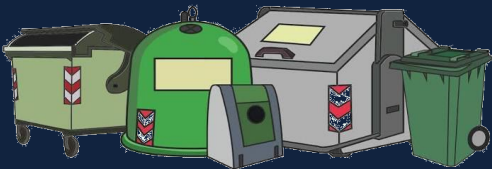
PAYT requires suitable identification, access controls and quantity data.



SnapAdvisor for operational decisions



Optional SnapAdvisor integration



Example operator question

Which bins could overflow today, and how should we adjust the collection plan?



05

ACT
Enable operators and field teams with the right informations.

Mobile App

Control Room

Reports

06

ASSIST
Ask the Agentic AI. Get insights, recommendations and reports.

Which bins need collection first?

46 bins with generic waste have risk of overflow. The optimised routes for the truck fleet have been produced and are available in the Routes planned dashboard ([click here to open](#)).

Explain unusual conditions

Combine live data with city procedures and history.

Recommend priorities

Suggest bins that need attention and possible route changes.

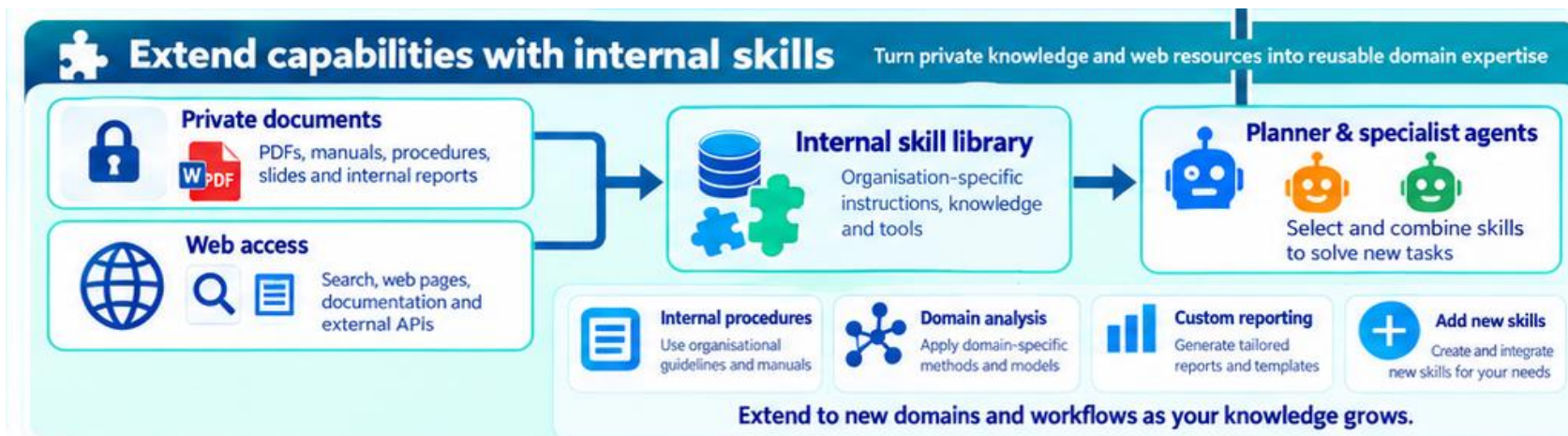
Compare scenarios

Explore changes to thresholds, fleets or collection policy.

Support authorized actions

Connect approved workflows through services and APIs.

Skill Packages



- Multiple and pluggable Skills, for different users and teams
- Full Custom Skills
- Integrate internal skills with web access, when needed

snap4city4dummies

ID: 280

This collection documents the Snap4City platform, its principal development and management tools, and a...

Open

TourismExpert

ID: 281

This collection include document and skill regarding about: how to solve problem in...

Open

ParkingExpert

ID: 286

The collection covers parking policy and supply requirements; demand-responsive...

Open

CityLightExpert

ID: 287

A curated collection of 30 publicly accessible PDFs supporting expert questions abo...

Open

WasteExpert

ID: 289

This collection contains 24 authoritative PDFs supporting retrieval-augmented answers...

Open

snap4citybarc2026

ID: 293

this collection contains promotional material distributed at Smart City world expo...

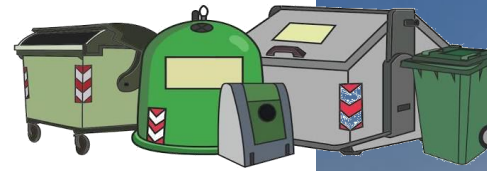
Open

CivilProtectionITExpert

ID: 294

No description provided for this collection

Open



A platform that fits your city

Open integration

APIs connect ERP, GIS, billing and municipal services.

Hardware flexibility

Integrate different sensors and network servers.

Flexible deployment

Choose SaaS or on-premise deployment.

Scale with control

Multi-tenant operation with role-based access and identity integration.

Waste management on a shared smart-city platform



SNAP4CITY



SASUAM

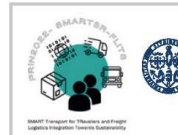


UrbanDT4TF

DI-DTPlatform



CAI4DSA



UNIVERSITÀ DEGLI STUDI DI CAGLIARI

