



European Union
European Regional
Development Fund



Action Plan

Part I – General information

Project: WINPOL: Waste Management Intelligent Systems and Policies

Partner organisation(s) concerned: City of Antwerp

Country: Belgium

NUTS2 region: Antwerp Province

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Part II – Policy context

The Action Plan aims to impact:

<input type="checkbox"/>	Investment for Growth and Jobs programme
<input type="checkbox"/>	European Territorial Cooperation programme
<input checked="" type="checkbox"/>	Other regional development policy instrument

Name of the policy instrument(s) addressed:

Strategic Multi-Annual Plan of the City of Antwerp 2020-2025

Further details on the policy context and the way the action plan should contribute to improve the policy instruments:

The plan for the city of Antwerp addressed focus is put on “clean streets” and on a further reduction of residual waste in the domestic waste production. Even though the Flemish region and the city of Antwerp have already reached outstanding recycling rates compared to other European regions and cities, a further reduction of waste remains an important goal. The Action Plan contributes to this extent.



Part III – Details of the actions envisaged

ACTION 1:

Name of the action: Image Recognition for reporting of fly-tipping/illegal dumping

1. Relevance to the project

During the 1st thematic seminar in Maribor, the city of Amsterdam presented their good practice on “Information-based waste collection”. Using artificial intelligence, cameras installed on a car are able to detect fly-tipping on the side of the road. City of Antwerp decided to import the experience.

2. Nature of the action

The “Image Recognition for reporting of fly-tipping/illegal dumping” consists of several steps.

The purpose of this action is that users, citizens, can upload a simple photo in an app. Using artificial intelligence (AI) and location details, the system will automatically recognize not only location and time, but also the type of fly tipping. This way response time can be reduced and the waste collected separately per type (e.g. mattresses, furniture, wood). Using AI we intend to improve the timeliness and quality of our fly-tipping collection.

The necessary AI-tool has been developed so far. The following step has been the creation of a database to be filled with visual material of fly-tipping examples in order to teach the system about fly tipping. The database is created and thousands of photos have been scanned manually and prepared so the system can now automatically recognise the different types of waste, further improving the automatic recognition of 80% of types of waste. The filling of the database to make it more efficient continues.

During phase 2, the system will also be tested in the field, evaluated and adjusted if necessary. The very next step is the increasing of the number of types of waste that are automatically recognised. At the moment 13 categories are recognised, we want to increase this to around 30.

3. Stakeholders involved

City of Antwerp: it is the main contractor of the project and will be the end user of the system

Digipolis, city’s IT partner and in-house stakeholder

External IT developers: necessary to fine-tune the AI-system and visual material

4. Timeframe

The building up of the database is ongoing. Testing in the field is expected in summer ’21, scheduled to take minimum 6 months. Adjustments will follow.

5. Costs

47 KEUR

6. Funding sources

City council budget provides the funding needed through the Multi-Annual Plan.



ACTION 2

Name of the action: Underground Waste Containers (UWC) Info App

1. Relevance to the project

During the 1st thematic seminar in Maribor, the city of Amsterdam presented their good practice on “Sharing Data on waste & resources with the public”. The waste department of Amsterdam is using a digital shell where data are shared with external stakeholders. It cooperates with other departments specialised in either IT, data and customer service. Together they try to work on a basis where the city provides all kinds of data. In this regard the experience shared by Amsterdam Municipality was inspirational to improve the data sharing in Antwerp Municipality.

It is worthwhile noticing that the new strategic Multi-Annual Plan for the City of Antwerp 2020-2025 focuses onto the fight against litter, the further reduction of residual waste and the expansion of underground containers, what means it is the perfect frame to develop this action, involving info sharing applied to underground containers.

The new approach in the Multi-Annual Plan for the City of Antwerp 2020-2025 was reported as a policy improvement indeed during the project development.

2. Nature of the action

Following the inspiration found in the good practice shared by City of Amsterdam, City of Antwerp wishes to develop a user-friendly app in which stakeholders can find a number of user-friendly tools for their underground waste containers such as nearest available container per type of waste, personal user data such as balance, previous deposits, etc.

This application will be added onto the “A-card”, a citizen’s card for the inhabitants and visitors of Antwerp that will be a general (virtual) access card (or app) to all the services the city provides.

In 2021 a number of functionalities will be added to the app:

- Better overview of the historical use of the A-card for underground waste containers (UWC).
- Blocking the card online
- Updating proper data
- Locating nearest booth and containers online

In 2022 the following functionalities are expected:

- Improved communication via app
- Integrating historical data and online charging of the card in the app

After 2022 it is foreseen:

- Replacing the physical card by app.

3. Stakeholders involved

City of Antwerp: it is the main contractor of the project and will be the end user of the system
Digipolis, city’s IT partner and in-house stakeholder
External IT developers: necessary to fine-tuning the app.



4. Timeframe

2021 - 2023

5. Costs

50 KEUR for the development of the tools for the underground waste containers.

6. Funding sources

City council budget provides the funding needed through the Multi-Annual Plan.

Part IV – Endorsement

Date: _____

Name of the organisation(s) :

Signatures of the relevant organisation(s): _____