

Monitoringsmodule

An innovative tool that helps municipalities monitor and design local litter prevention actions

Rik Seniow, 20/06/2023



Mooimakers in Belgium

- Flemish region (Vlaams gewest): Mooimakers
- Walloon region (Waalse gewest): Bewapp
- Brussels-capital region (Brusselse gewest):
Net Brussel – Bruxelles Propreté



Mooimakers: a Collaboration

- Three contributing partners:
 - Public Waste Agency of Flanders (OVAM)
 - the Association of Flemish Cities and Municipalities (VVSG)
 - the national organization responsible for selective collecting, sorting and recycling of household packaging waste (FOST PLUS)
- Collaboration Goal: control and decrease litter and illegal dumping in Flanders



SAMEN MAKEN WE
MORGEN MOOIER
OVAM

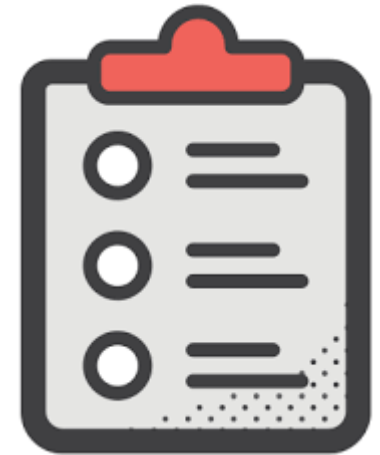


Fostplus 



Goals Mooimakers in Relation to Data

- **Local Materials Plan by Flemish government:**
prevention program and waste management plan for household waste and comparable industrial waste 2023-2030.
Measurable Outcomes for litter:
 - Improvement of specific type areas by 20%
 - No deterioration of other type areas
- **Hard goal:** importance of monitoring and proving relevance of policy
- **Data driven policy:**
 - Increase efficiency
 - Objective data
 - Support policy making



Monitoring Litter on Macro Level

- **Context:**
 - Local Materials Plan (Flemish region)
 - Extended Producer Responsibility (European SUP-directives)
- **Fixed methodology used to quantify the amount of litter in Flanders:**
 - Random sample per area type = number of pieces of litter per 100m²
 - Amount of litter collected annually by local municipalities and volunteers
 - Collected trash in public bins

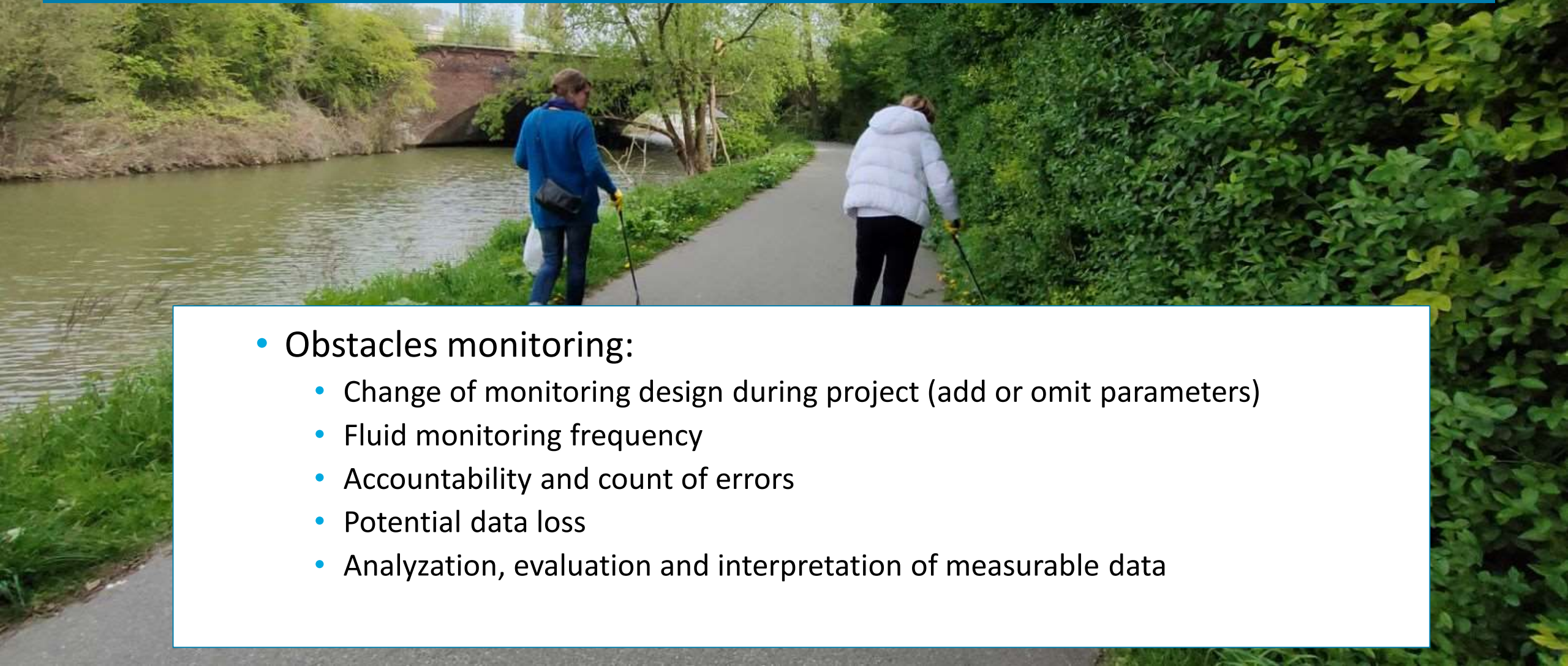


Monitoring Litter and Illegal Dumpings on Micro Level (1)

- **Context:**

- Mooimakers hosts and facilitates a wide range of different projects with one common goal: fight litter and illegal dumpings
- Micro level impact (eventually on macro level)
- Hot Spot Mitigation
 - Design – plan – monitor – analyze - execute – evaluate
 - Customized approach ensures credibility

Monitoring Litter and Illegal Dumpings on Micro Level (2)



- Obstacles monitoring:
 - Change of monitoring design during project (add or omit parameters)
 - Fluid monitoring frequency
 - Accountability and count of errors
 - Potential data loss
 - Analyzation, evaluation and interpretation of measurable data

Monitoring Litter and Illegal Dumpings on Micro Level (3)

- Mooimakers mission statement highlights collaboration with key partners:
 - Municipalities
 - Intermunicipals
 - Companies
 - Volunteers
- Design a professional user friendly tool to support our partners in monitoring litter and/or illegal dumpings.
- Incorporate tool into free digital platform *Mijn Mooie Straat* powered by Mooimakers

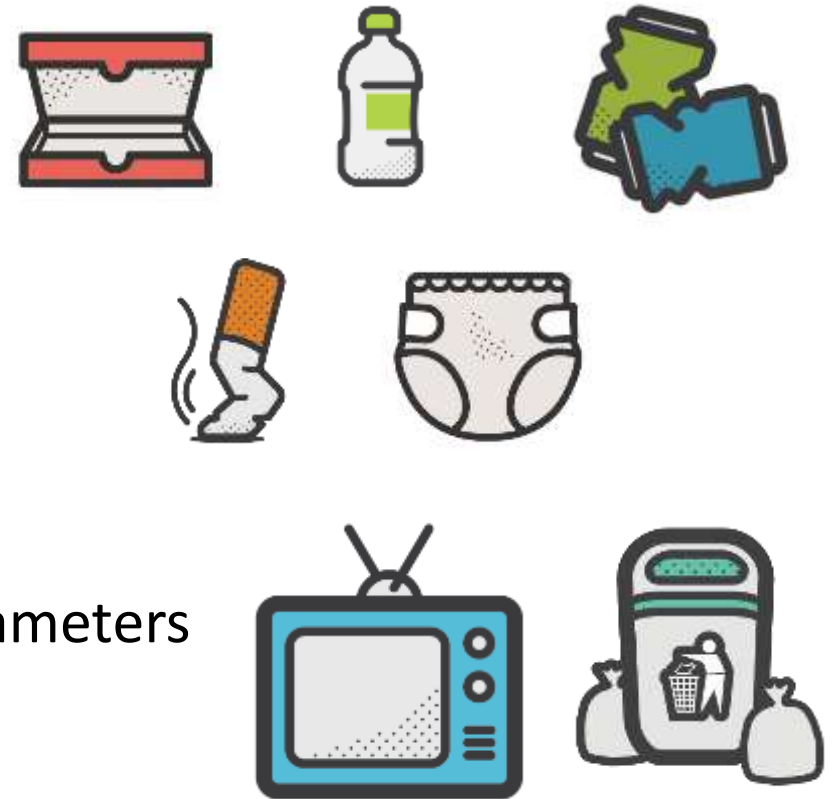
Project Plan: 7 Key Steps

- 7 key steps:
 - Design parameters
 - Create and align on final plan
 - Execute monitoring
 - Analyze data
 - Execute critical measures
 - Execute monitoring
 - evaluate results



Project Details: Design and Plan

- Monitoring design
 - Define challenges
 - Design capture: litter and illegal dumpings
 - Weight (Kg)/volume (per 60l)/absolute numbers
 - Fractions/general
- Standard information:
 - Define type area
 - Incorporate public trash bin information on 3 parameters
 - Define zone of impact
 - Ensure representative monitoring zones (5 max)



Projectdetail

Opties

- INFO
- LOCATIE & MEETSTROKEN**
- AFVALPUNTEN
- METINGEN
- MAATREGELLEN
- RAPPORTAGE

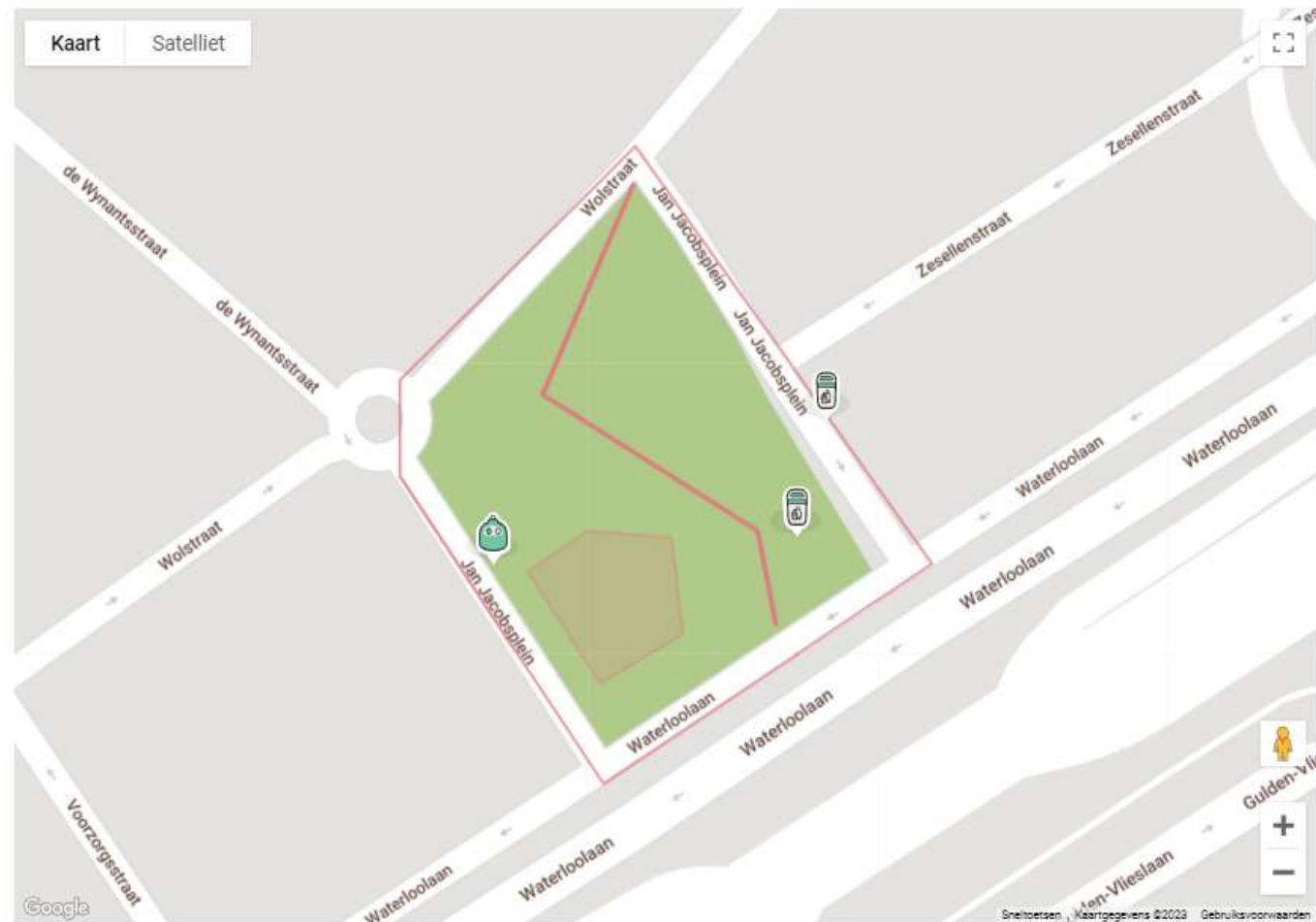
Locatie aanpassen

De projectlocatie kan niet meer gewijzigd worden aangezien er al metingen werden ingegeven.

3 afvalpunten binnen de locatie

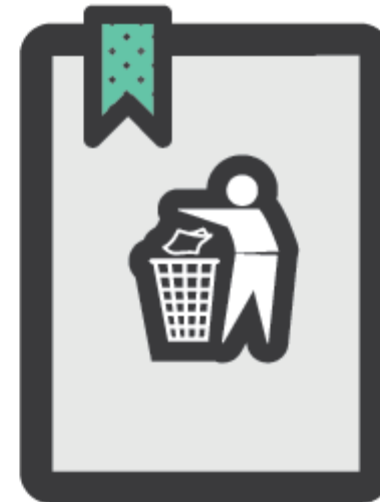
Kaart

Satelliet



Project Details: Execute Monitoring (1)

- Live monitoring = less administrative tasks
- Timing:
 - When?
 - Who? (objectify the subjective)
 - How long?
- Considerations:
 - Volunteers
 - Cleaning services
 - Others



× Meting ingeven

- Intro
- Project selecteren
- Meetstrook selecteren
- Tellen**
- Opmerking
- Datum

Tellen van fracties

Zwerfvuil (Aantal stuks)

Peuken

Drankverpakkingen

Glas

Hondenpoep

Organisch

Papier & karton

Restcategorie

Verpakking voeding

Sluikstort (Aantal stuks)

Kleine sluikestorten

[← Vorige](#)

[Volgende](#)

Project Details: Execute Monitoring (2)

- Baseline measurements $><$ impact measurements
 - **Goal:** align on method for measurement
 - **Ensure continuity:** same people and frequency
 - **Variability:** same circumstances reduce error



Project Details: Analyzing Data

- A series of baseline measurements is completed:
 - Review the extent of the problem and confirm whether to proceed or abort
 - Investigate possibility of including local measures
 - Discuss and align on hypothesis
 - Review past measurements that were proven effective
 - Determine which measurement(s) are most effective and fit for the project



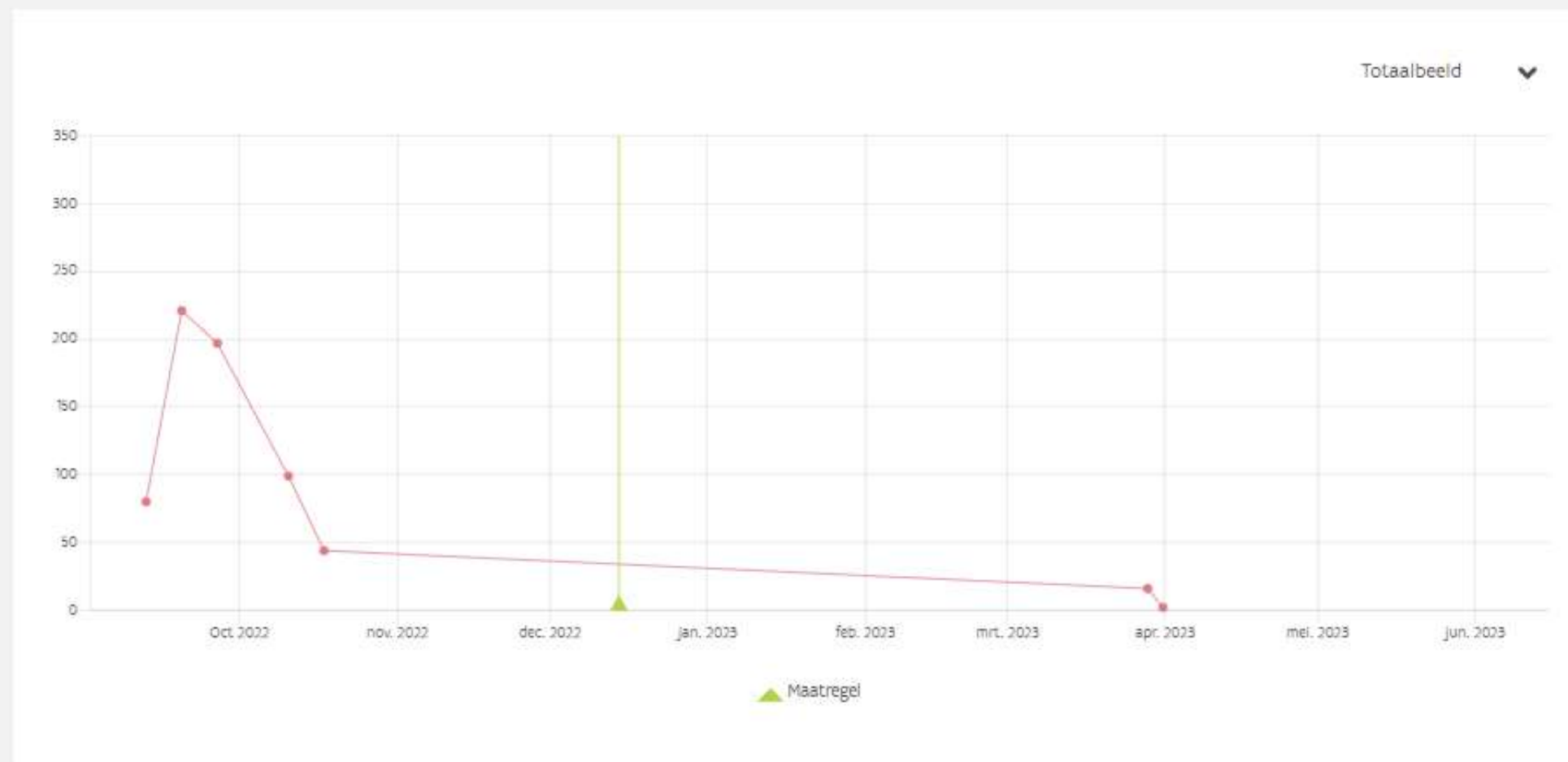
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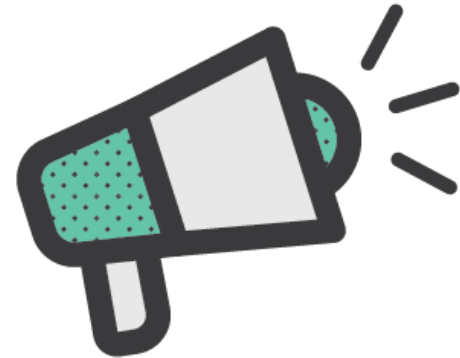
Evolutie per meetstrook Zwerfvuil (Aantal stuks)

Sinds start project



Project Details: Execute

- Important: practical, thoughtful agreements with executive services
- Timing is key
- Concentration on open, collaborative communication



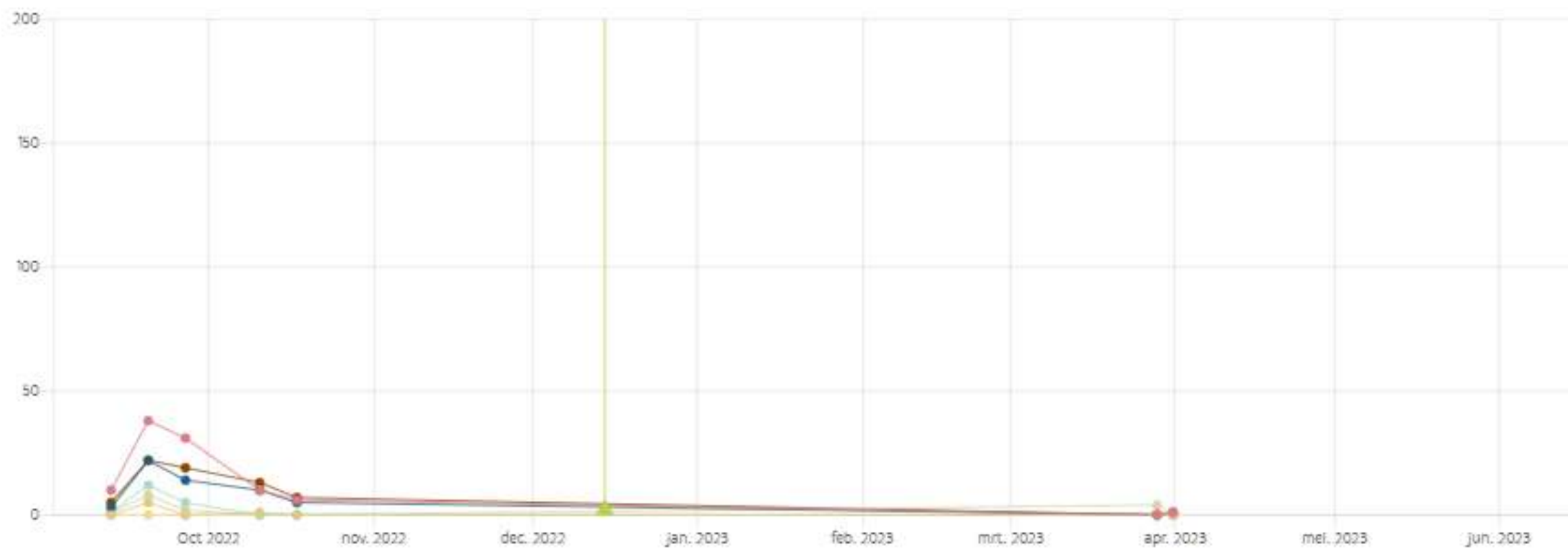
Project Details: Evaluate

- Supporting graphs needed:
 1. Evolution graph per representative monitoring zones
→ cummulation of all fractions (in chosen unit)
 2. Evolution graph per fraction of monitoring zones
→ cummulation of amount in fraction (in chosen unit) per monitoring zone
 3. Measures bar chart includes the effect of the measures
→ mean of baseline measurements vs mean of impact measurements
- Different display of data for litter and illegal dumpings



Fracties selecteren

Totaalbeeld

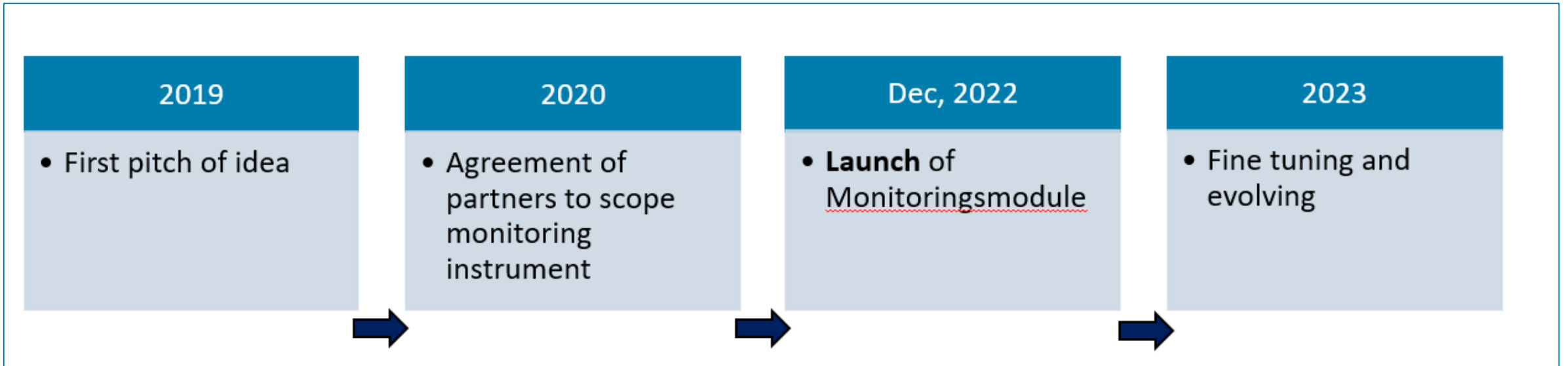


- Drankverpakkingen
- Glas
- Hondenpoep
- Organisch
- Papier & karton
- Restcategorie
- Verpakking voeding
- ▲ Maatregel

Nulmetingen vs impactmetingen Zwerfvuil (Aantal stuks) ▼



Monitoringsmodule Is Born



Upcoming Features and Enhancements

- Perception scan:
 - Scientifically rooted
 - **Goal:** work on relationship between three intertwined littering conditions: behavior, perception, surroundings.
 - If perception scan is carried out system will suggest detailed measures to local municipalities
 - Target launch: Fall 2023
- Comparison Tool:
 - Allows for comparison of different time slots within a single project
 - Includes comparison against different projects

Thanks for Listening

- Questions?
- Reach out:

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