URBAN LOGISTICS AS AN ON-DEMAND SERVICE

ULaaDS Final Webinar

Presenter: Arianna Americo, Eurocities

Date: 28/02/2024

Urban Logistics as an on-Demand service

Fostering sustainable and liveable cities through the deployment of innovative, shared, zero-emission logistics, while dealing with the impact of the on-demand economy.

ULaDS
URBAN LOGISTICS AS AN ON-DEMAND SERVICE

Agenda

Time	Presentation	Speaker
11:30 – 11:35	Welcome and Introduction	Arianna Americo, Project and Forum Coordinator, Eurocities
11:35 – 11:50	**The ULaaDS Replication Booklet**: insights into the ULaaDS solution and their replication potential **Q&A**	Arianna Americo, Project and Forum Coordinator, Eurocities
11:50 – 12:05	**Finding the Right Space for Urban Logistics**: a Framework for Open Parcel Locker Systems **Q&A**	Lorena Axinte, PhD, Senior Mobility Consultant, Bax & Company Víctor Ferran, Urban Mobility Consultant, Bax & Company
12:05 – 12:20	**The ULaaDS decision support toolbox**: an interactive tool assessing the strength of each ULaaDS solution **Q&A**	Philipp Müller, Research Fellow Transport Logistics, Fraunhofer IML
12:20 – 12:55	**How to Future-Proof Urban Logistics Policies?** Interactive session with the University of Groningen looking at how to map uncertainties and how to embrace adaptive policy-making.	Maaike Buser, PhD Researcher, University of Groningen
12:55 – 13:00	Conclusions and wrap-up	Arianna Americo, Project and Forum Coordinator, Eurocities

Our Cities

ULaaDS — URBAN LOGISTICS AS AN ON-DEMAND SERVICE

REAL-LIFE TRIALS

The ULaaDS solutions and schemes will be demonstrated in our **Lighthouse** cities: Bremen (Germany), Groningen (The Netherlands) and Mechelen (Belgium).

Since large scale replication and upscaling of ULaaDS results is one of the cornerstones of the project, four **Satellite** cities - Alba Iulia (Romania), Bergen (Norway), Edinburgh (United Kindom) and Rome (Italy) - will replicate select solutions.

Lighthouse cities
Satellite cities

BERGEN

EDINBURGH

GRONINGEN

BREMEN

MECHELEN

ALBA IULIA

ROME

42 Months
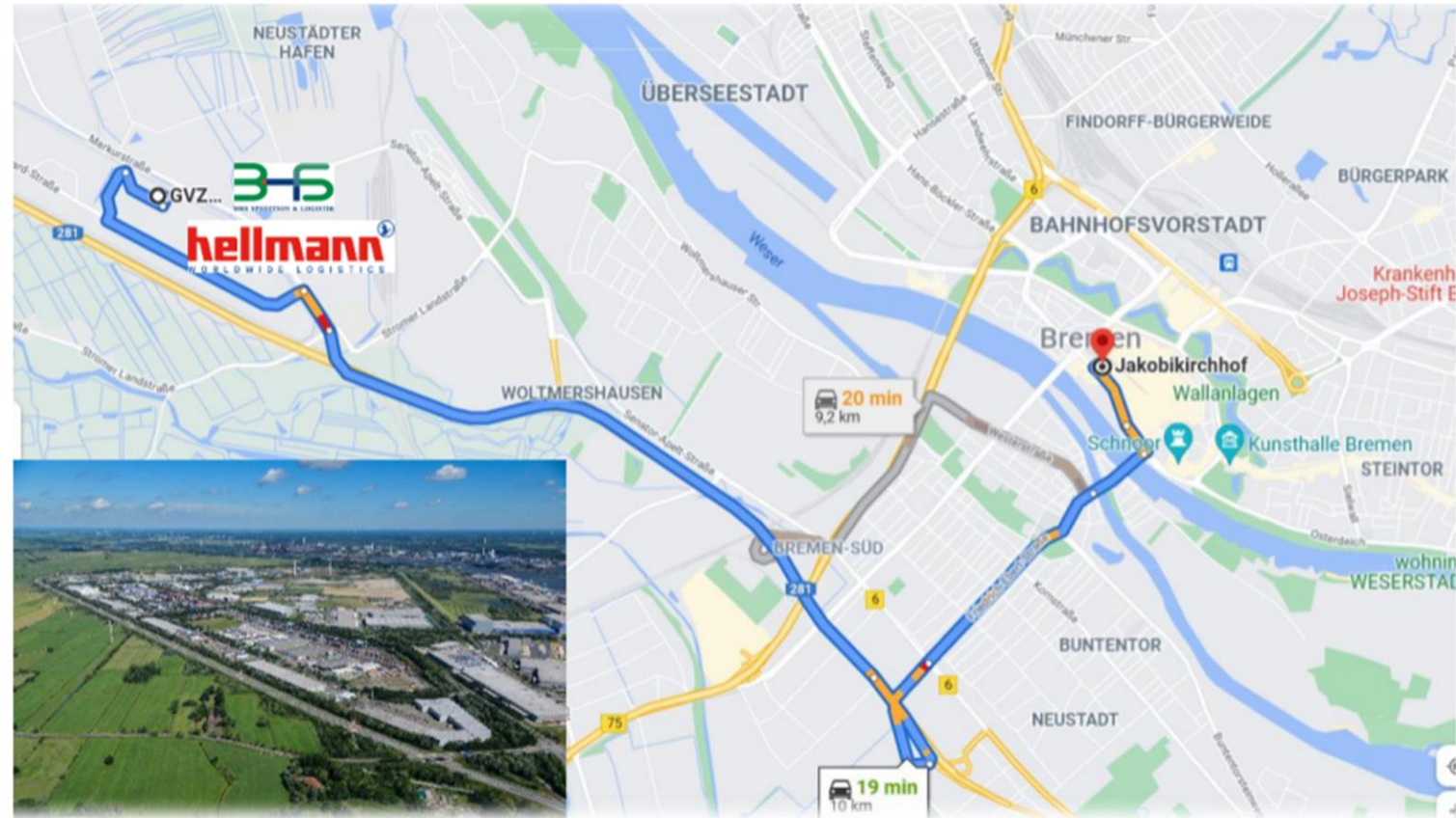
25 Partners

3.15m Budget

Trials Bremen

Containerized consolidated last mile delivery

- Transport of general cargo from Bremen freight village (GVZ) to city

- Last mile delivery by (heavy) cargo-bikes

Containerized microhubs with cargo-bike logistics

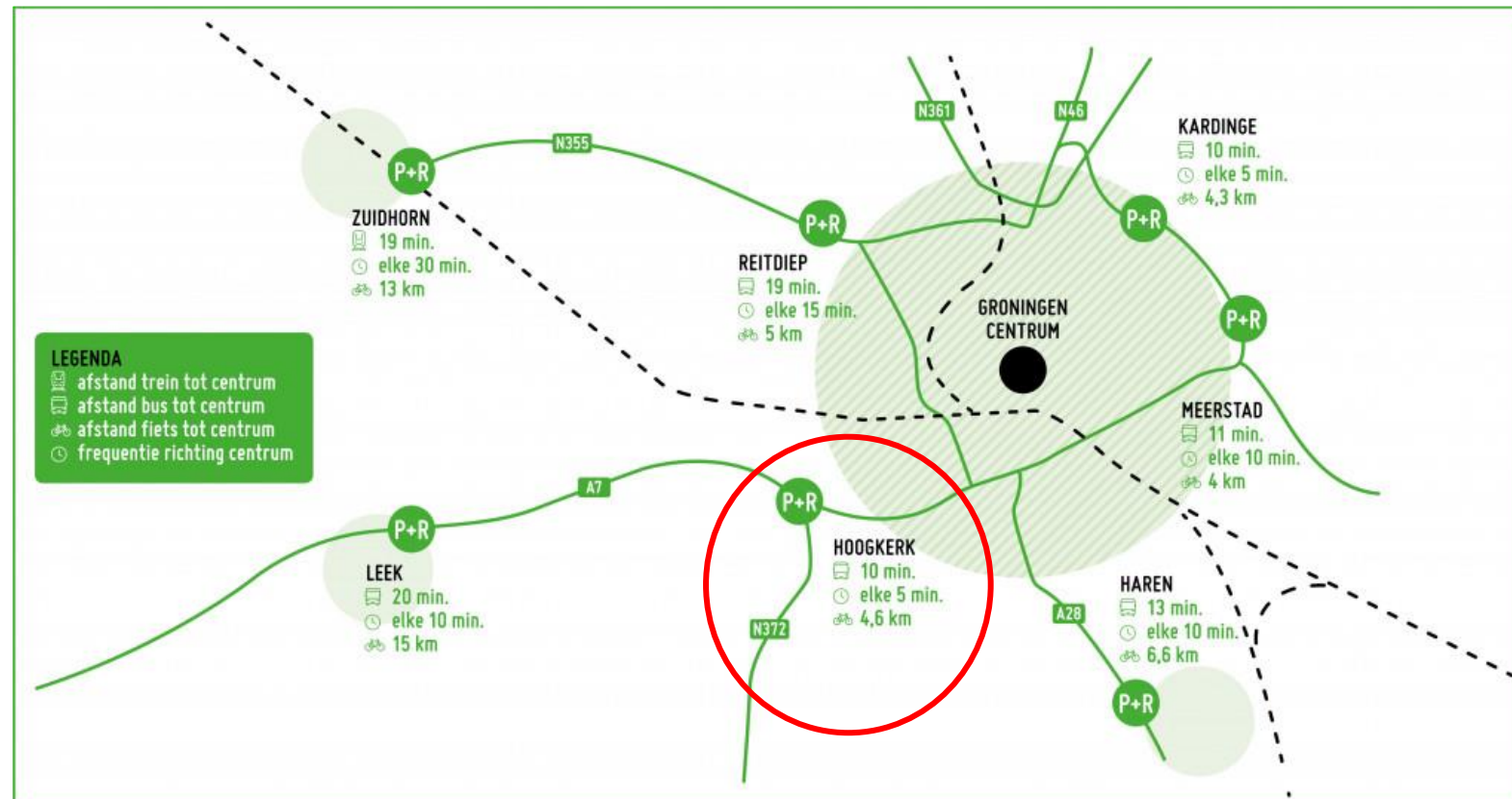# Private cargobike logistics

Trials Groningen

Trial 1: urban logistics as a service for commuters at park & ride zones

- 375.000 traffic movements in & out the city center

New logistics services

- Public lockers
- Cargo-bike rental place

Trial 2: vehicle sharing for logistics by local shopkeepers

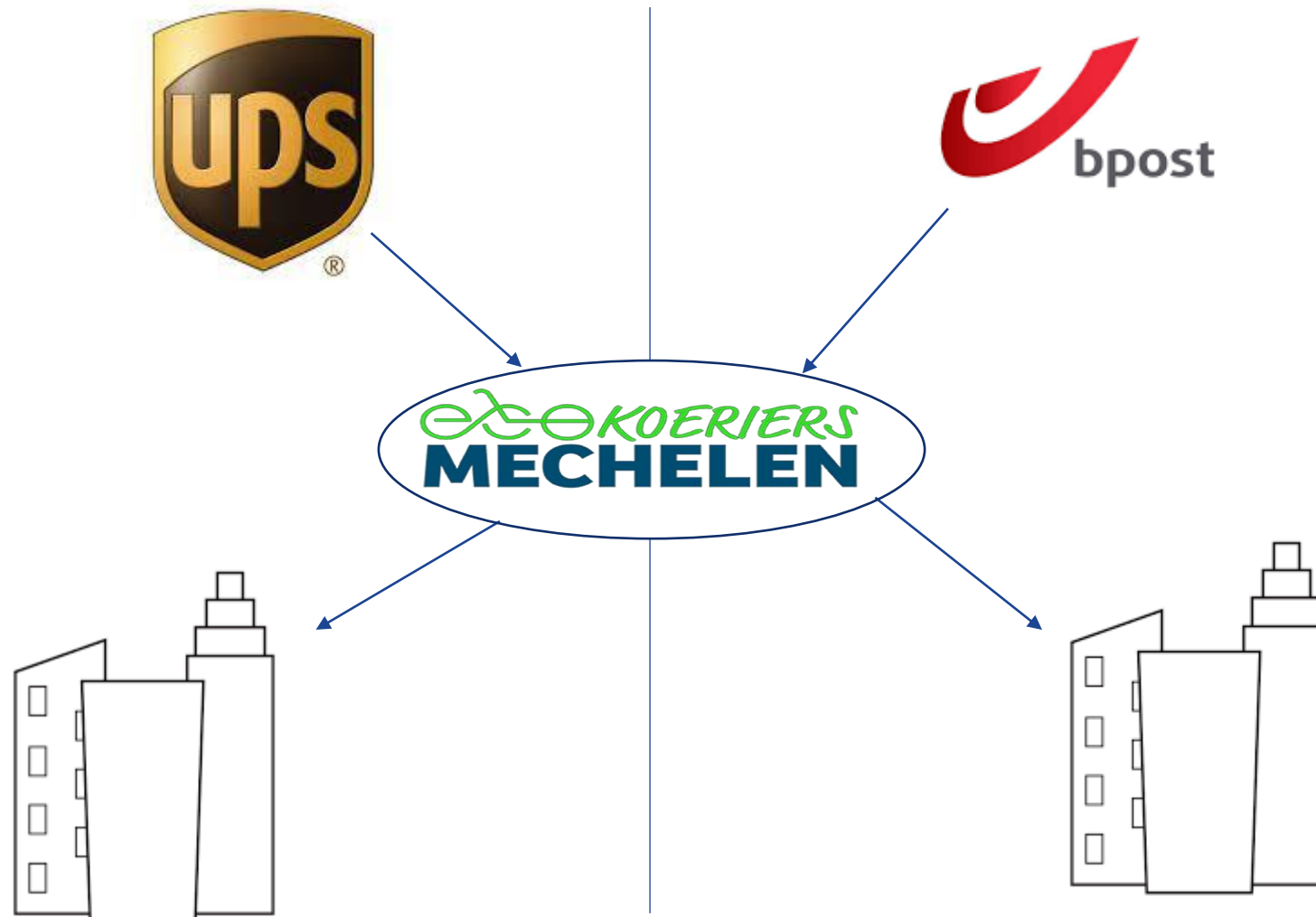- Groningen City Club: city shopkeepers convenant

- Sharing/rental options for: electric vehicles + (e-)cargo bikes
  - 1 vehicle provider, pay per use

Trials Mechelen

Trial 1: Combined parcel pick ups at local shopkeepers
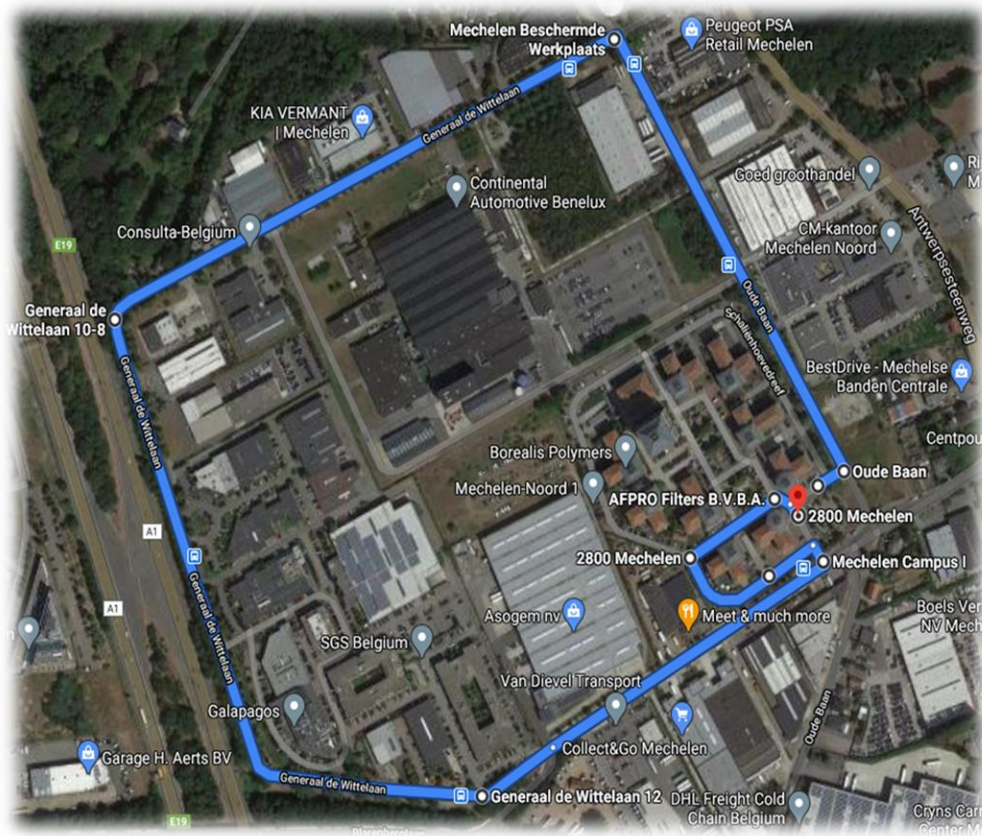
Trial 2: Cargo hitching with autonomous vehicles

Cargo-hitching: autonomous transports passengers and parcels in a parcel locker on board of the vehicle

Replication in ULaaDS

Replication
training

Technical webinars

Peer-learning webinars

Replication webinars

Peer-learning visits
(in Mechelen, Bremen
and Goningen)

Implementation
roadmaps for
Satellite cities

ULaaDS spreading the word

Mechelen Study Visit
May 2022

Groningen Study Visit
October 2022

Bremen Study Visit
March 2023

With the ULaaDS replication activities, **4 Satellite cities** & **10 Follower cities** where selected and involved in the study visits to the Lighthouse cities

Measure our Satellite cities are interested in replicating:

Alba Iulia

IS LOOKING AT REPLICATING :

1. 2. Bremen Trials
1. 2. Mechelen Trials
1. 2. Groningen Trials

Edinburgh

IS LOOKING AT REPLICATING :

1. 2. Bremen Trials
1. 2. Mechelen Trials
1. 2. Groningen Trials

Bergen

IS LOOKING AT REPLICATING :

1. 2. Bremen Trials
1. 2. Mechelen Trials
1. 2. Groningen Trials
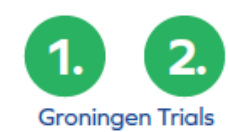
Rome

IS LOOKING AT REPLICATING :

1. 2. Bremen Trials
1. 2. Mechelen Trials
1. 2. Groningen Trials

Discover the ULaaDS Replication Booklet

Thank you!

Get in touch:

Arianna Americo: arianna.americo@eurocities.eu

Marion Pignel: marion.pignel@eurocities.eu

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2030

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Making space for urban logistics - a framework for parcel lockers

Lorena Axinte, Bax & Company

Urban logistics as a service for commuters at park & ride – an ULaaDS research trial

Aims:

- add logistics services to a P+R area on the outskirts of Groningen
- develop an attractive service for commuters
- make logistics more sustainable by reducing and replacing driven kilometres

Permits, agreements and requests

Spatial integration

• Pressure on public space is growing

Land use agreement

• Very strict rules for using public space → a policy framework is needed for a land use agreement

Electricity connection request

• Long waiting period to get your requested connection

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Trialing…

Joining forces to develop a framework

Why:
- to establish the vision, rules and expected results of parcel locker services
- to provide parcel lockers as a universally accessible service
- to overcome the lack of easily replicable models from other cities/countries

Gemeente Groningen
- Stakeholder fora (incl. PostNL, DHL, de Buuren)
- Inter-departmental discussions

university of groningen
- Involvement and facilitation of stakeholder fora
- Research on the carbon emission impact of pickup points in last-mile parcel delivery

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VALUE FROM SCIENCE AND TECHNOLOGY
- Benchmarking of worldwide practices for parcel lockers
- Spatial analysis to identify the best location for parcel lockers in terms of measured accessibility
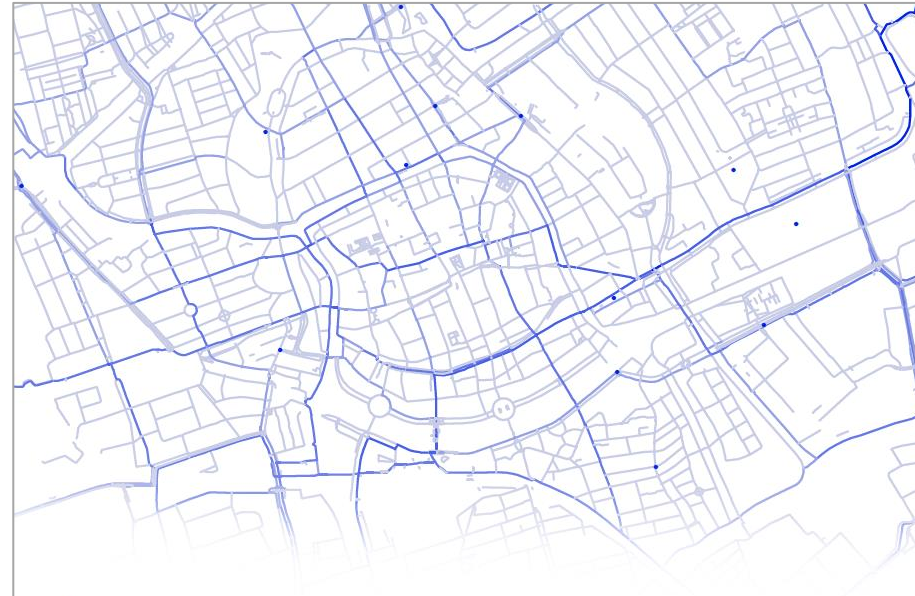
FINDING THE RIGHT SPACE FOR URBAN LOGISTICS

A FRAMEWORK FOR OPEN PARCEL LOCKER SYSTEMS

NOVEMBER 2023

https://ulaads.eu/finding-the-right-space-for-urban-logistics-a-framework-for-open-parcel-locker-systems/

Benchmarking best practices

Examples from:

- Austria
- Norway
- UK
- Singapore
- US

Common themes:

- Overall regulation approach
- Business models
- Location
- Infrastructure requirements
- Accessibility
- Data reporting
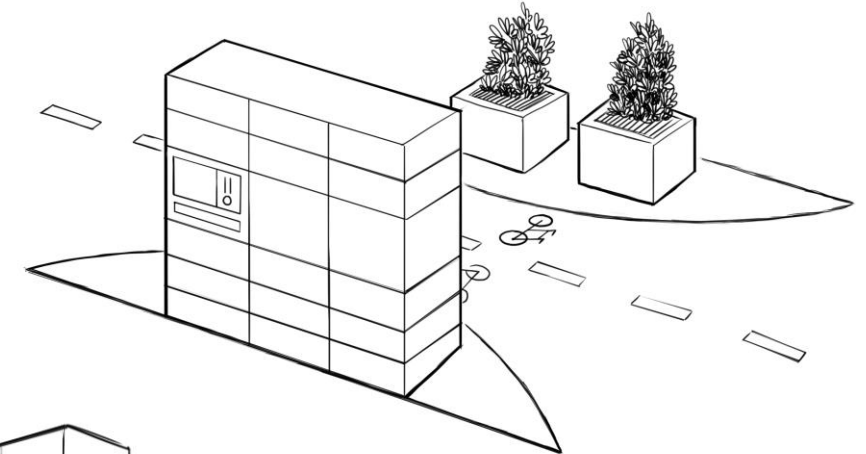
Parcel locker integration in public space
Visual inspired by Millie Mitchell / Centre for London
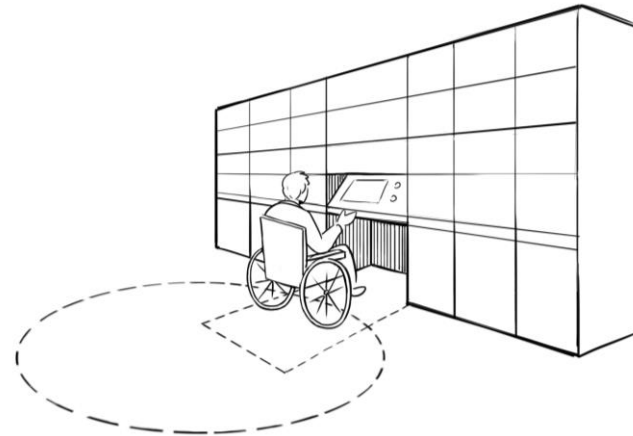
Barrier-free design of the installation site
Visual inspired by Bernhard Hruska / Architektur B4

Best spots for parcel lockers in Groningen

1. **Understanding the city context:**
   - Demand: where do most people live?

HIGH

LOW

Best spots for parcel lockers in Groningen

1. **Understanding the city context:**
   - Demand: where do most people live?
   - Infrastructure: where are people most likely to walk and cycle?

HIGH

LOW

Best spots for parcel lockers in Groningen

1. **Understanding the city context:**
   - Demand: where do most people live?
   - Infrastructure: where are people most likely to walk and cycle?
   - Priorities: where would the city prefer to locate parcel lockers?

Legend:
- BUURTHUB
- PARK & RIDE
- STATIONS
- WIJKHUB

Best spots for parcel lockers in Groningen

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   - Demand: where do most people live?
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2. **Finding the most accessible 10 public spots**

Best spots for parcel lockers in Groningen

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2. **Finding the most accessible 10 public spots**

5 MIN
10 MIN
15 MIN

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5 MIN
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HIGH DENSITY

LOW DENSITY

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VALUE FROM SCIENCE AND TECHNOLOGY
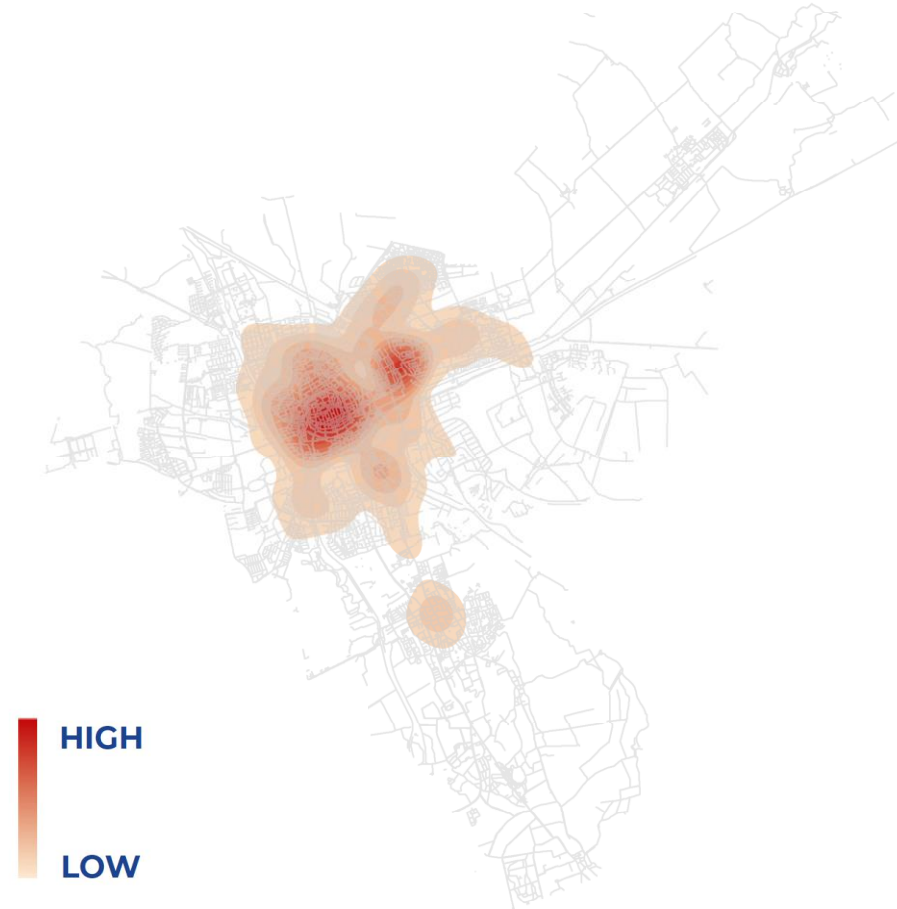
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2. **Finding the most accessible 10 public spots**

3. **Filling the gaps in existing private networks**

PostNL & DHL **bike** coverage

■	5 MIN
■	10 MIN
■	15 MIN

■	5 MIN
■	10 MIN
■	15 MIN

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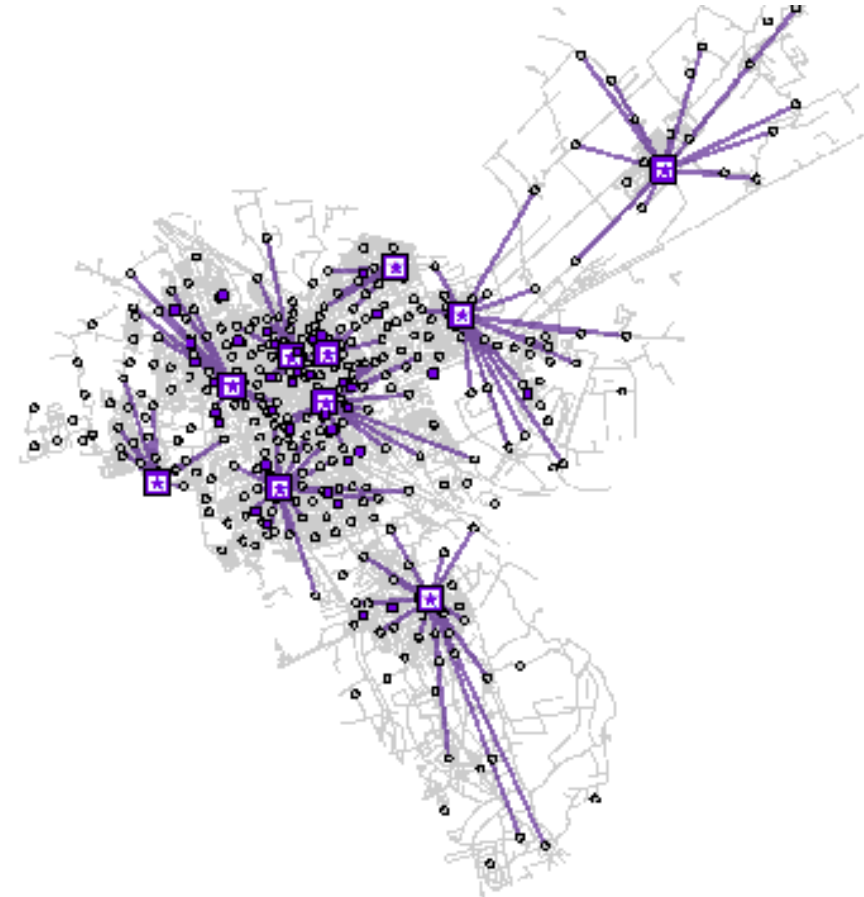
2. **Finding the most accessible 10 public spots**

3. **Filling the gaps in existing private networks**

PostNL & DHL
pedestrian
coverage

■	5 MIN
■	10 MIN
■	15 MIN

200m/400m/600m

■	5 MIN
■	10 MIN
■	15 MIN

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Best spots for parcel lockers in Groningen

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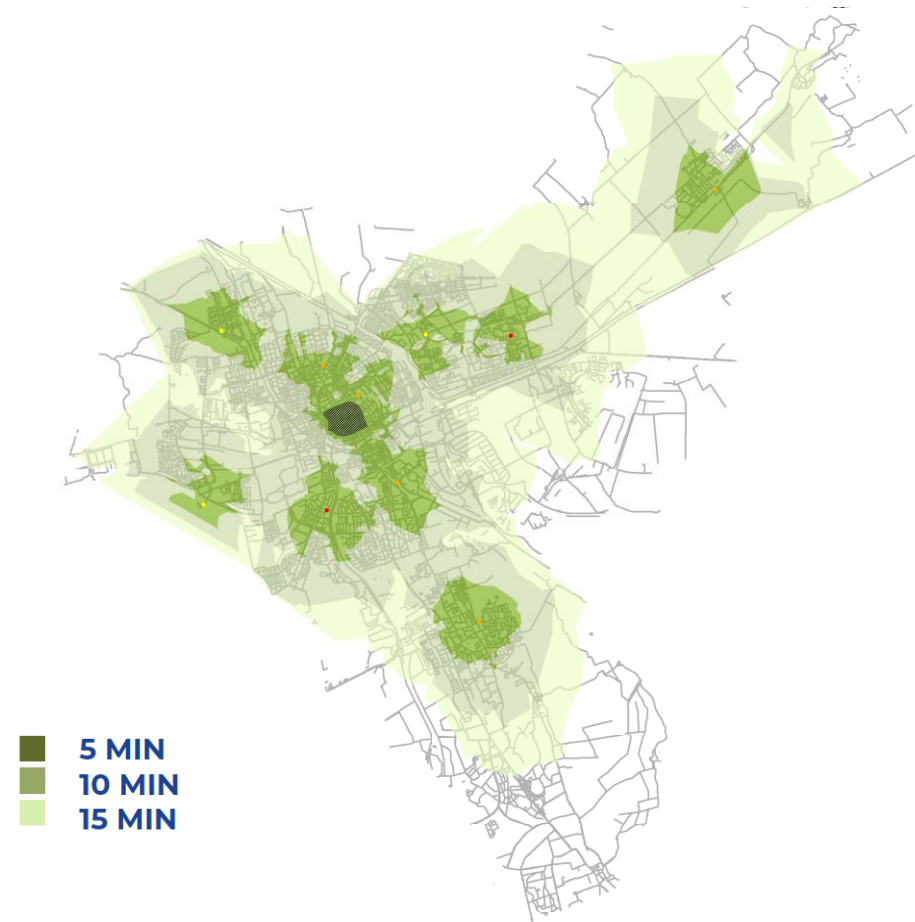
2. **Finding the most accessible 10 public spots**

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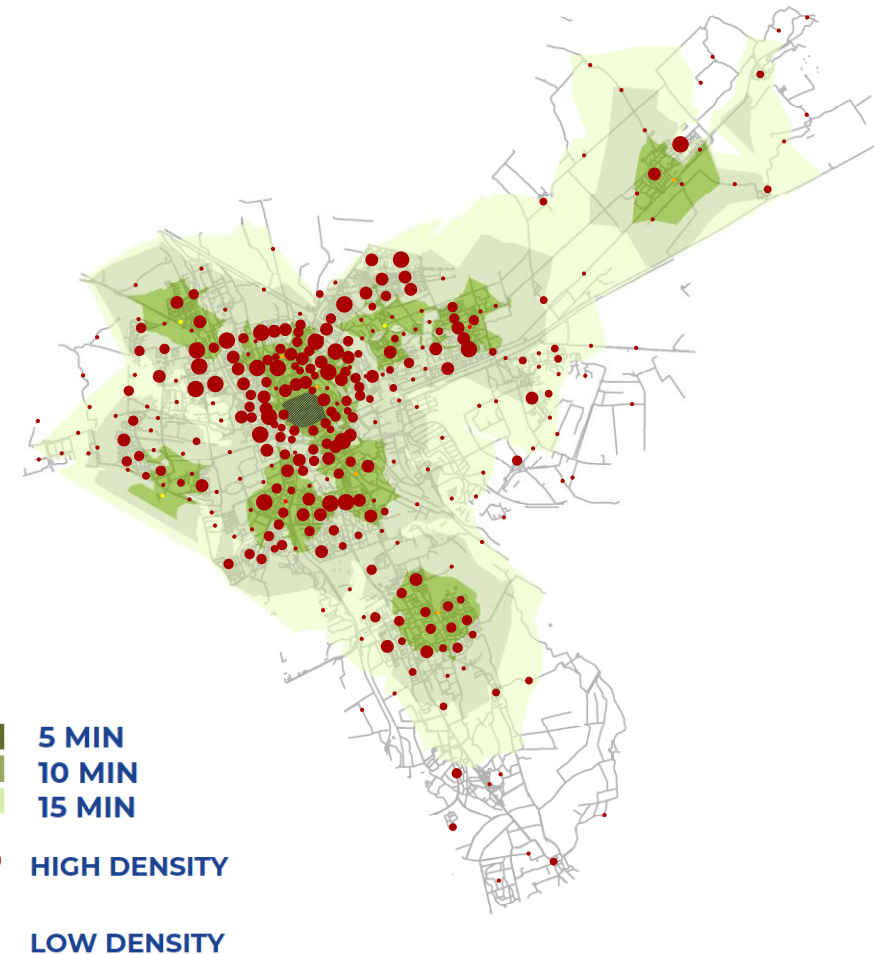*Private offer and city's preferred locations (mobility hubs)*

Best spots for parcel lockers in Groningen

1. Understanding the city context:
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   - Infrastructure: where are people most likely to walk and cycle?
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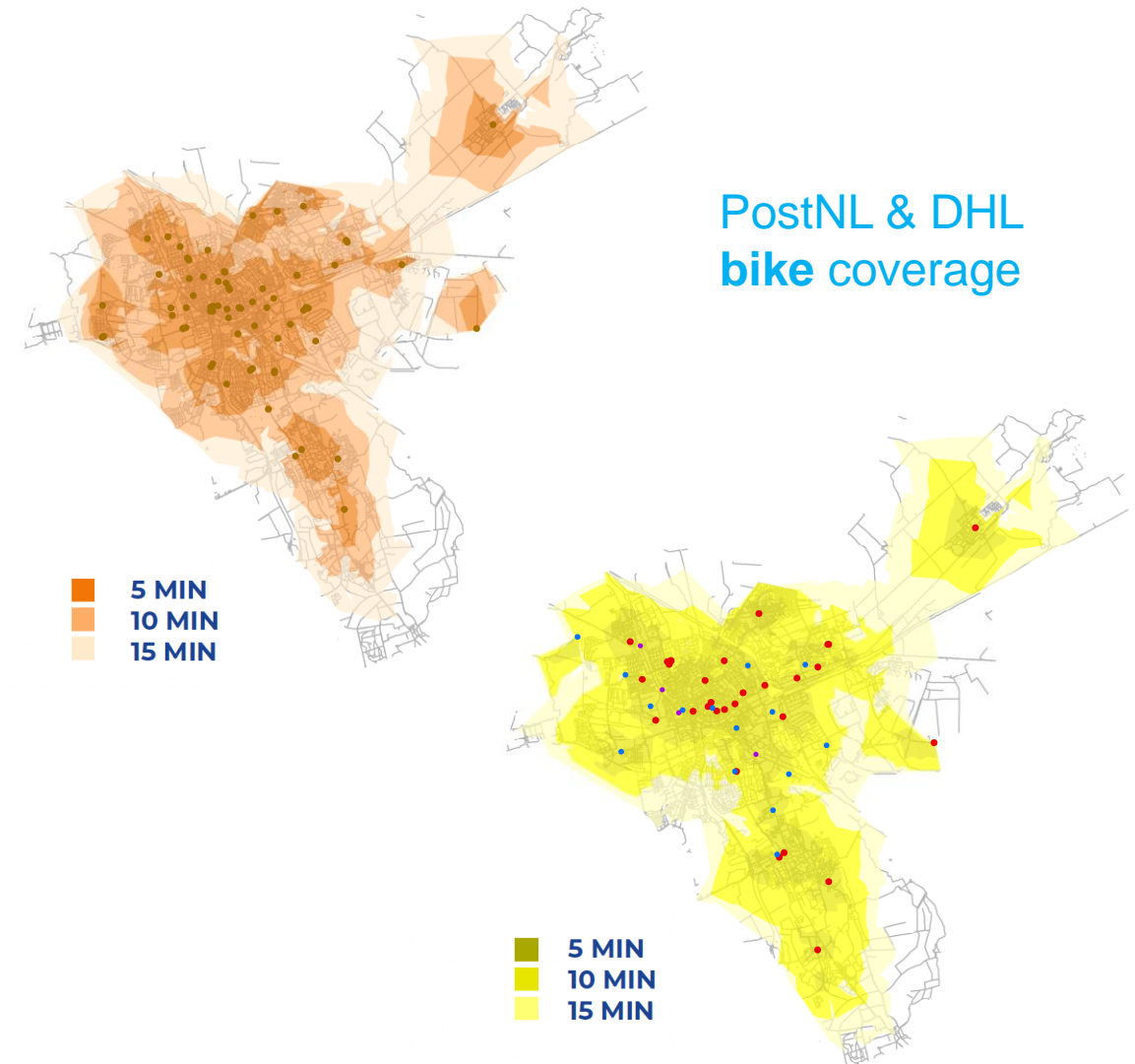2. Finding the most accessible 10 public spots

3. **Filling the gaps in existing private networks**

MEERSTAD

MARTINIPLAZA

S.O.J PALMELAAN
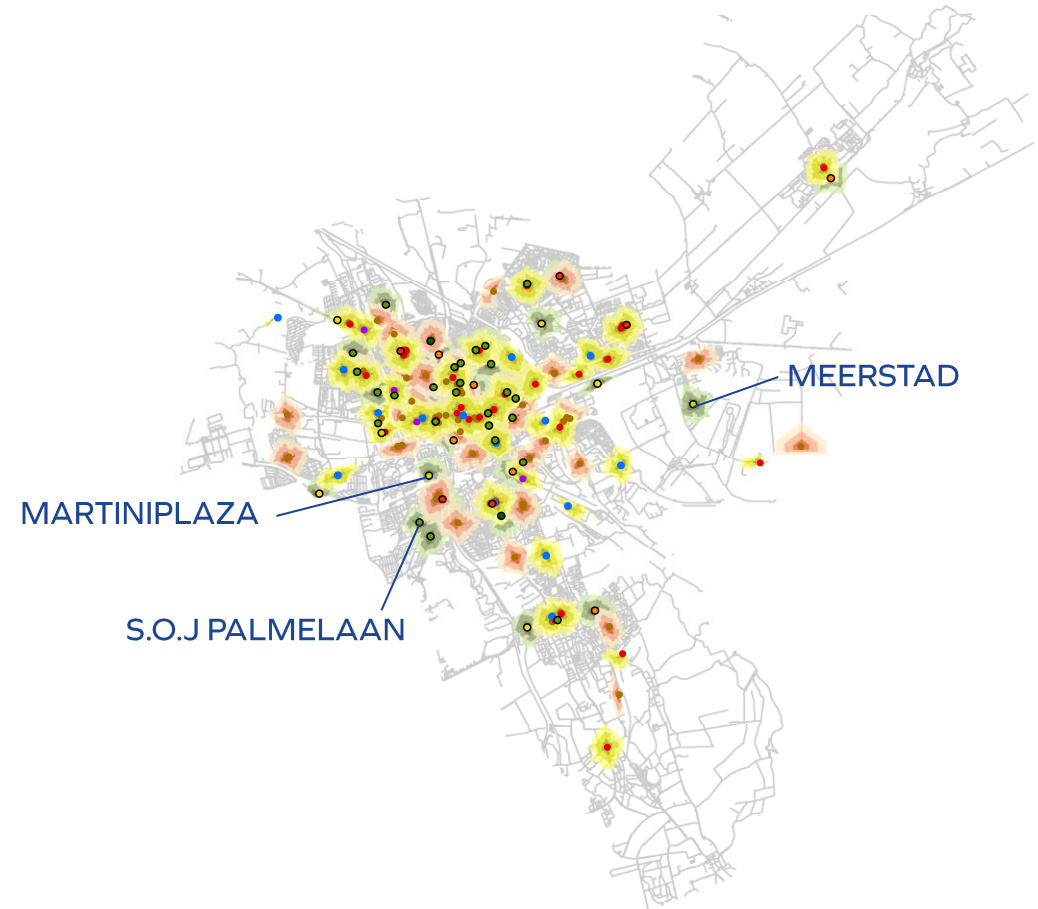
Recommended priority locations for parcel lockers

Next steps

Gemeente Groningen

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- Policy framework submitted to the city council for adoption in December

- Part of the framework is a concession for an agreement to operate parcel lockers in public space (for 1 operator)

- At least 3 companies will be asked to make an offer

- The municipality foresees 10-20 parcel lockers in public spaces

- The concession period is 5 years

- Actively seeking feedback on the methodology and approach

- Replicate study in other cities, on other logistics developments and other accessibility topics

Thank you!

Get in touch:

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The ULaaDS Decision Support Toolbox

Date: 28/02/2024

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Questionnaire Evaluation
Purposes of the "Decision Support Toolbox"
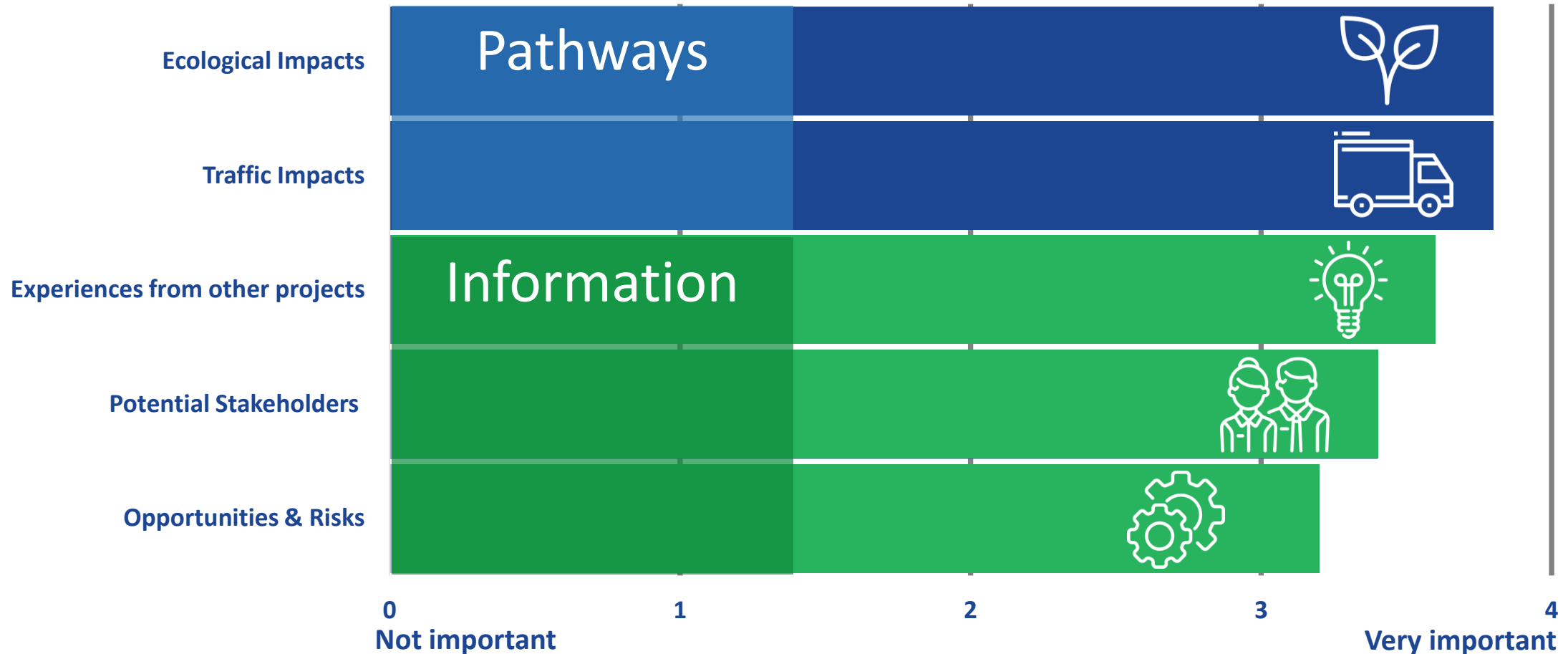
Check out the full impact assessment deliverables

Economic impacts, user experience, user acceptance, willingness to pay and awareness

Impacts on logistics and traffic efficiency, land use and the environment

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philipp.mueller@iml.fraunhofer.de

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Introduction

Diverse stakeholders

Unpredictable processes and events

Innovations

Sensitive to (unforeseen) developments - uncertainties

Urban logistics policy-making = Finding the balance between setting directions and being responsive

ULaaDS Deliverables:

6.4 A novel framework on strategic decision-making for SUMPs or SULPs for adaptive urban logistics systems

6.5 Take-aways for adaptive policy-making in the context of UFT

Research into a novel framework for strategic decision-making for SUMPs/SULPs

- Policymakers aware of uncertainties
- Limited resources
- Missing approach

Research into a novel framework for strategic decision-making for SUMPs/SULPs

- Policymakers aware of uncertainties
- Limited resources
- **Missing approach**

A systematic approach

![ULaaDS - URBAN LOGISTICS AS AN ON-DEMAND SERVICE]

1	2	3	4	5
Raising awareness about the system's complexity	**Mapping Uncertainties**	**Adopting Adaptive Strategy Principles**	**Increasing robustness of policy measures**	**Acting responsively during policy implementation**

ADAPTIVE SUSTAINABLE LOGISTICS PLANS

5 Acting responsively and making adjustments if needed

1 Raising awareness about system's complexity

2 Mapping Uncertainties

3 Adopting adaptive strategy principles

4 Increasing robustness of policy measures

SULP Cycle

Implementation & Monitoring

Preparation & Analysis

Measure Planning

Strategy Development

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52
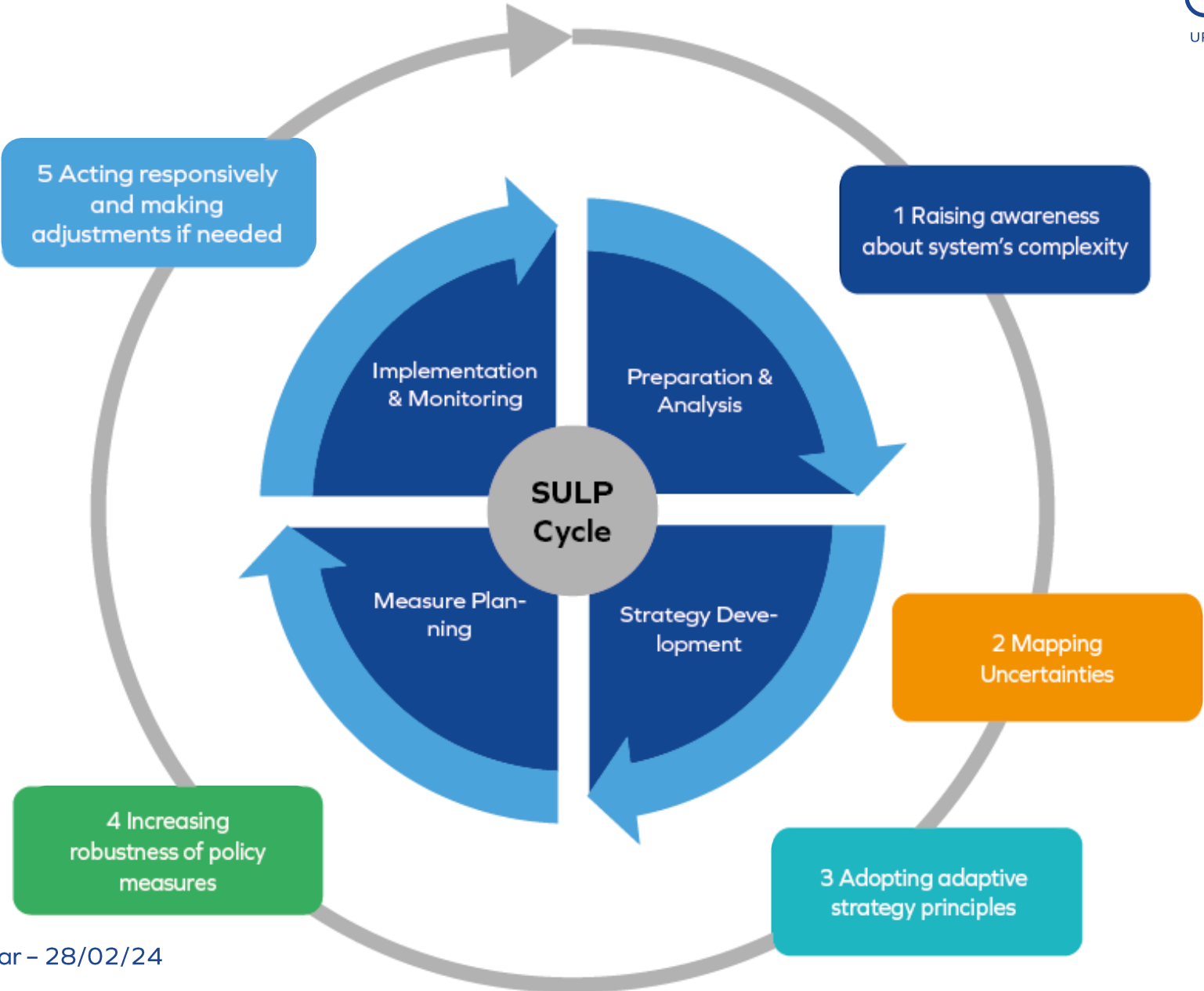
1 Raising awareness about the systems complexity

- Explaining the connection of urban logistics systems with many other systems

- Sensitive to changes in, for instance, consumer preferences, new technological opportunities, changes in national or European legislation and global crises

Raising awareness about the systems complexity
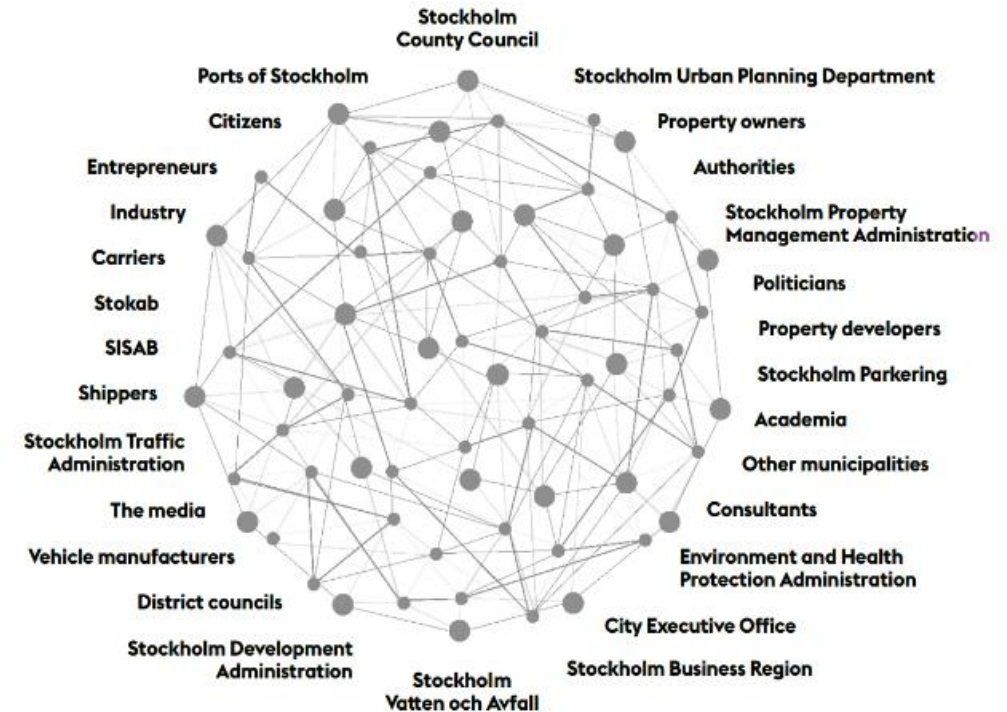
1. Stakeholder network analysis

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2. Causal loop diagram
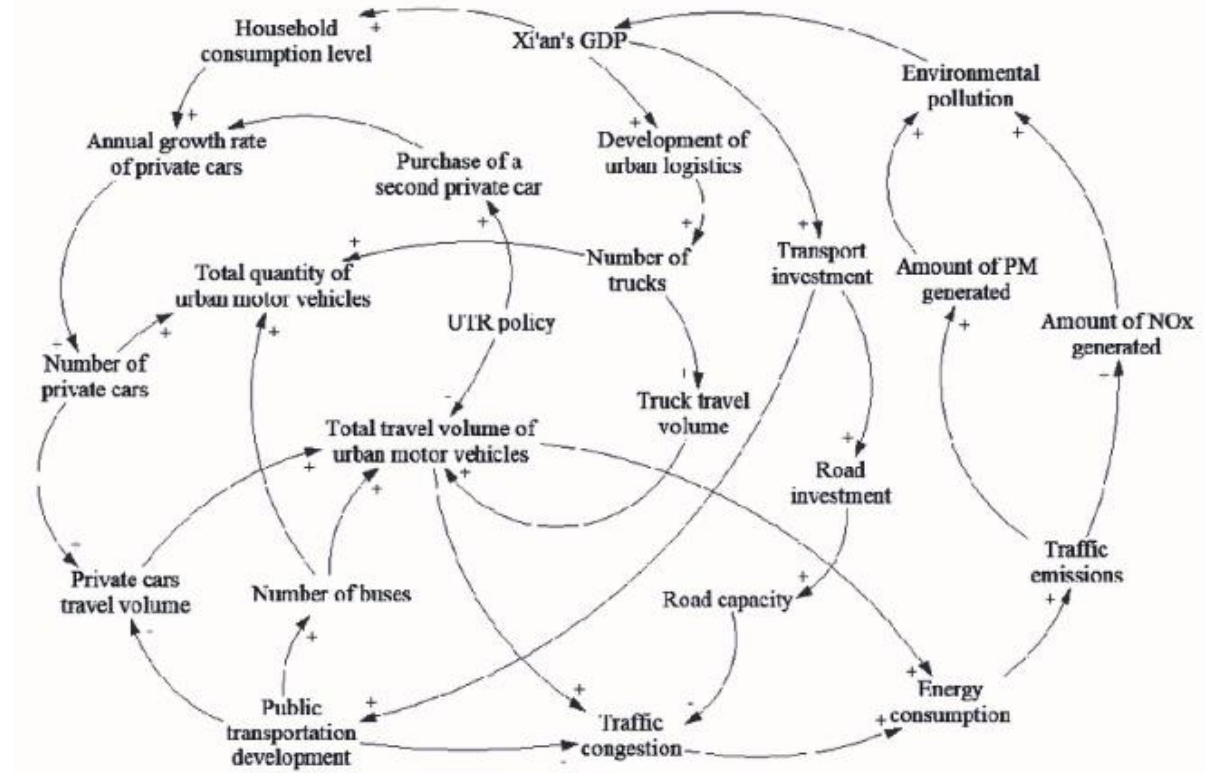
1 **Raising awareness about the systems complexity**

1. Stakeholder network analysis

2. Causal loop diagram

3. Workshops, city walks, and storytelling that foster interactions with stakeholders' understanding of urban logistics operations

2 **Mapping Uncertainties**

Identify developments that affect the city and SUMP/SULP

• Events, policy effects, and business innovations

Let's practice

https://miro.com/app/board/uXjVNsP4G0A=/

ULaaDS - How to Future-Proof Urban Logistics Policies?

The uncertainty you are confronted with:

The Inner City Moves Out: Due to the implementation of a zero-emission zone, shops and other services move their business out of the city centre to avoid the zero-emission constraints

Question 1	Your answers

Responding to unforeseen change starts with sense-making: Which actions would you take to obtain a better understanding of the developments you are confronted with and their potential implications for your policy?

- Speak with local stakeholders
- Speak with local transport companies
- Meet with CEP operators
- Investigate the potential companies wo would divert outside the citycentre
- Look into research in other cities
- Show evidence from other cities

- Establish a regional forum (between the city and neighboring regions/cities for a coherent stragety - like the SUM in Vienna)
- Speak with stakeholders
- find strategies to make the city centre attractive... maybe noit primarily as shopp ing zone
- discuss the question whether it is really due to the ZEZ

- Permanent working tables with stakehders

The uncertainty you are confronted with:

The Inner City Moves Out: Due to the implementation of a zero-emission zone, shops and other services move their business out of the city centre to avoid the zero-emission constraints

Question 2	Your answers

Could you think of two ways to make your current policy plan ready for dealing with this unforeseen development?

- Integrate SULP decisions in the SUMP policy cycle landmarks.
- Develop incentives for businesses to stay within the ZEZ
- Expand the ZEZ
- push towards improving real-costs in transport

- Offer shared transport solutions (similar to GRO's trial)
- Close contact with authorities to know these developments in time
- contact with research
- workshops with stakeholders with examples from other cities

- Share the benefits and the results of policies implemented
- Plan policies implementation enough in advance and share with stakeholders

2 Mapping Uncertainties

Forecasting 1
Models, Projections,
Measurements, Calculations

Foresight 2
Workshops, Roundtables,
Focus groups, Brainstorm sessions

Four
Methods of
Mapping
Uncertainties

Exploring by testing 3
Pilots, Experiments

Exploring by consultation 4
Informal conversations (calls)
Online fora, Network events,
News letters, Podcasts

Forecasting
Models, Projections, Measurements, Calculations

1

Foresight
Workshops, Roundtables, Focus groups, Brainstorm sessions

2

Four Methods of Mapping Uncertainties

Exploring by testing
Pilots, Experiments

3

Exploring by consultation
Informal conversations (calls) Online fora, Network events, News letters, Podcasts

4

https://miro.com/app/board/uXjVNsP4G0A=/

Enable and prepare urban logistics plans to respond to changing conditions

1

Visioning for enabling adaptive navigation.

provides orientation on when to adapt and in which direction

2

Guiding principles for an open city.

it is essential to focus (new) policies as much as possible on general guiding principles

3

Take small steps consistently

Implementing policy actions incrementally allows taking change into account

4

Experimentation and learning

a process of 'trial-and-error' to find a way to deal constructively with uncertainty

5

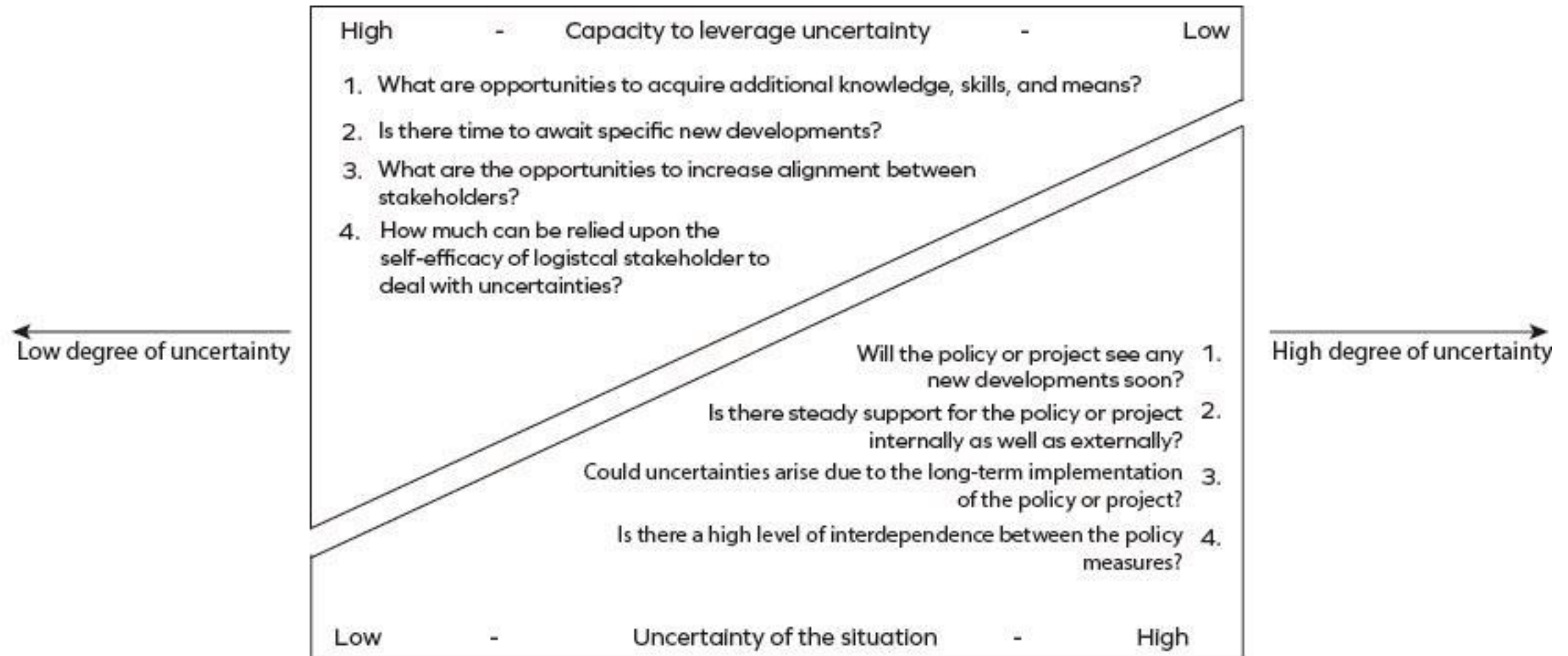**Strengthen resilience by involving stakeholders**

invest in stakeholder involvement

4 **Increasing robustness of policy measures**

Keep measures effective under changing circumstances

1. Threat or opportunity
2. Level of uncertainty

Increasing robustness of policy measures

High   -   Capacity to leverage uncertainty   -   Low

1. What are opportunities to acquire additional knowledge, skills, and means?

2. Is there time to await specific new developments?

3. What are the opportunities to increase alignment between stakeholders?

4. How much can be relied upon the self-efficacy of logistcal stakeholder to deal with uncertainties?

Low degree of uncertainty   High degree of uncertainty

1. Will the policy or project see any new developments soon?

2. Is there steady support for the policy or project internally as well as externally?

3. Could uncertainties arise due to the long-term implementation of the policy or project?

4. Is there a high level of interdependence between the policy measures?

Low   -   Uncertainty of the situation   -   High

4 Increasing robustness of policy measures

| Type of uncertainty	Degree of uncertainty	Action if change arises	Example: zero-emission zone
Opportunity	Low	Seizing likely opportunities	Improved air quality • Awareness campaign with citizens science app
Opportunity	High	Exploiting potential opportunities	Alternative use of public space • Temporal street furniture
Threat	Low	Mitigating expected negative side effects	Protest of SME's • Provide shared electric vehicles • Implement transition period
Threat	High	Reducing the likelihood of potential undesired effects	Cost overruns of surveillance systems • Pilots • Use proven technology

5 **Acting Responsively during policy implementation**

Be alert and "ready to adapt", i.e., act responsively and make adjustments if needed

Degree of adaptation	Action	Example: zero-emission zone
Adapt within SULP objectives	Defensive against disturbances	Illegal entries of ZE zone • Information campaign • Intensify surveillance & fines
Adapt within SULP objectives	Corrective to unexpected changes	Spontaneous informal cross-docking • Adjusting coverage of zero-emission zone
Adapt within SULP objectives	Capitalization by embracing changes to add value	Furthering health benefits • Greening the city • Foster walkability
Reconsider SULP objectives	Reassessment of the policy goals and policy measures	Ongoing societal protest, structural technical failures

ADAPTIVE SUSTAINABLE LOGISTICS PLANS
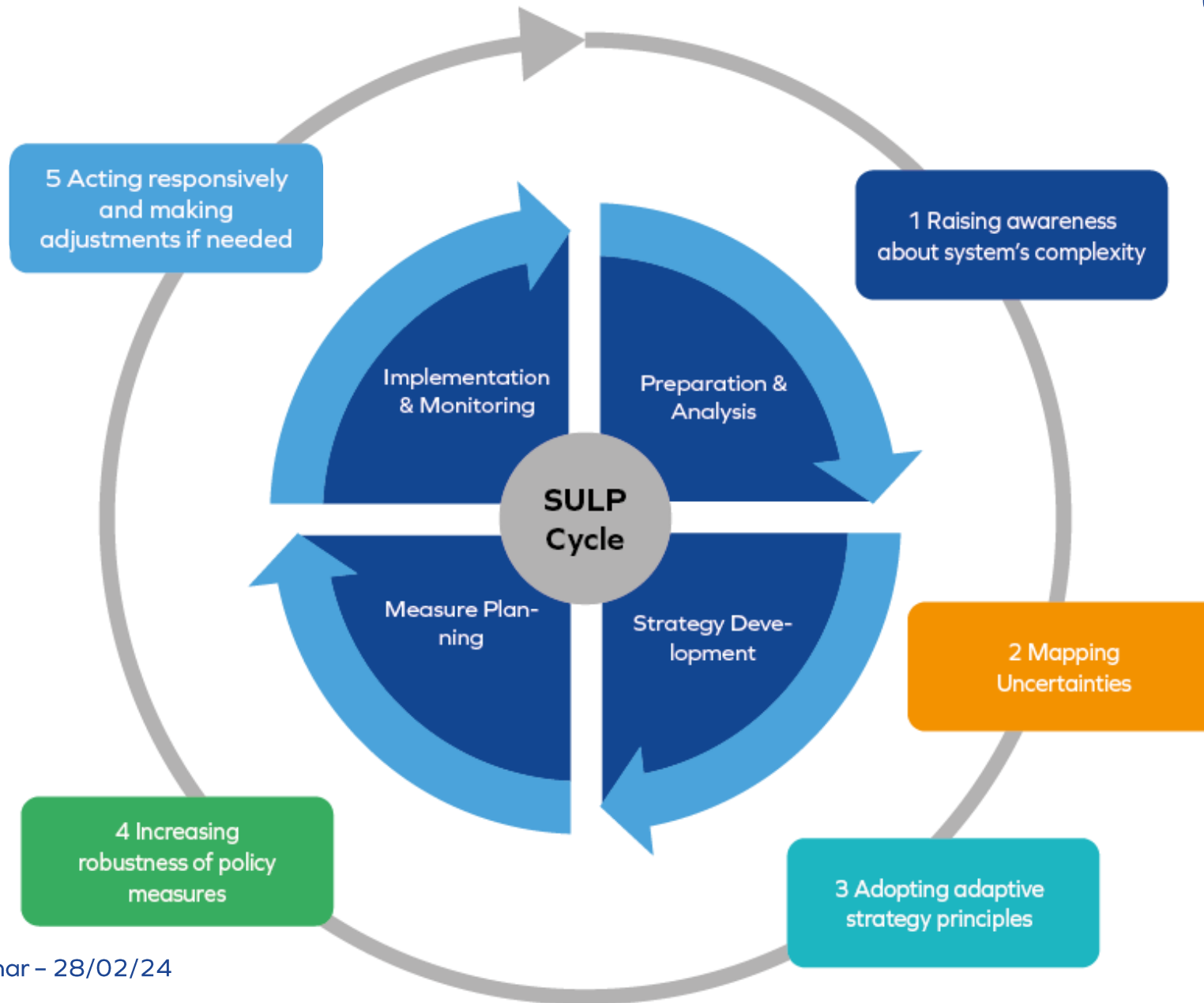
Key Investments to make for succes

- Time and Resources
  - Regular talks with local stakeholders & experts
  - Reliable data
  - Creating future proof policies

- Mandate to
  - Experiment
  - Actively learn
  - And make necessary adjustments
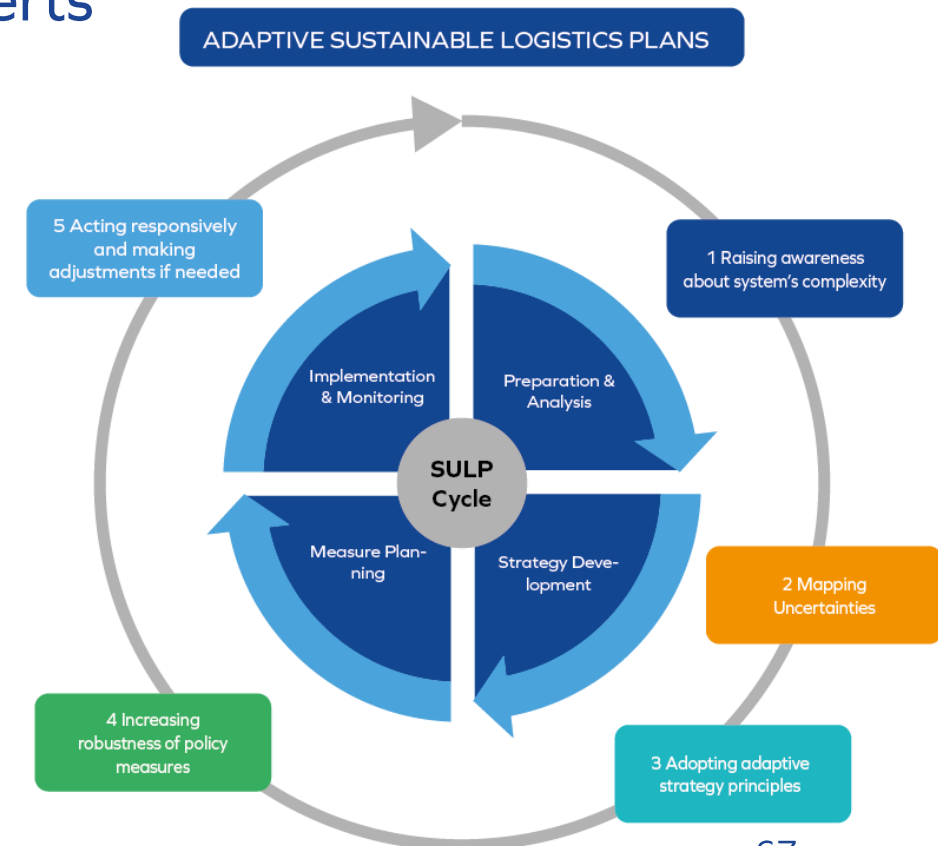
Thank you for being part of the ULaaDS journey!