Urban Logistics Innovation Day 2024

Second edition

4 JUNE 2024 | BRUSSELS | 9:00 - 17:00 CET

POLIS CITIES AND REGIONS FOR TRANSPORT INNOVATION | alice Alliance for Logistics Innovation through Collaboration in Europe

In collaboration with DISC

Urban Logistics Innovation Day 2024

Welcome Speeches

Paola Cossu

CEO of FIT Consulting & Co-Chair of the Thematic Group on Urban Logistics at ALICE

Pedro Fernandez

Head of the Department of International Mobility of the City of Madrid

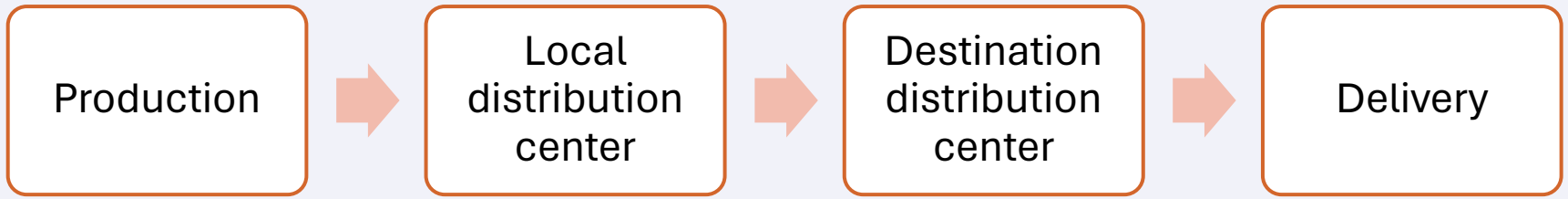
Urban Logistics in Europe

Urban Logistics Innovation Day

June 4th, 2024

🚚🌎 Logistics is a key engine that turns the global economy.

Imagine any object, food or product that you use in your daily life: a pen, the office computer, your partner's favorite coffee, the fruit for breakfast or the book on your bedside table.



Significant contribution to the European Economy:

1. GDP
2. Employment

The European freight and logistics market size is estimated at $1.03 trillion in 2024. It is expected to reach $1.26 trillion by 2029, growing at a CAGR of 4.11% the upcoming years.

🚚🌍

Logistics is a key engine that turns the global economy.

E-commerce continues to steadily grow in Europe, creating new challenges for cities. Also, since the COVID-19 pandemic, a new delivery mode, fast deliveries that bring everything to people's doors within minutes, grew significantly.

In Europe, a change in the paradigm is expected to make the logistics sector even more competitive.

The private sector is optimizing logistics processes taking measures such as:

1. outsourcing of production stages
2. outsourcing of distribution stages
3. specialization of production centers
4. implementation of distribution centers

🚚🌍

Logistics is a key engine that turns the global economy.

Challenges urban logistics brought to cities can be summarized into four categories:

1. emissions and pollutions (air pollution and noise)
2. infrastructure and land use
3. safety
4. workforce

According to Eurostat that urban freight transport in 2017 represents:

- almost 15% of the greenhouse gas (GHG) emissions
- 30% of air pollutions
- between 10% and 20% of vehicle kilometres travelled (VKT)

Most parcels of the goods purchased online are small and light, suitable for cargo-bikes thus raising complex issues about demand for infrastructure (cycling lanes, parking) and urban space (logistics hubs in central areas), road safety, workers' right and wellbeing.

Capital and largest city in Spain

3.3 million inhabitants and 6.8 million at a regional level.

7% of Spain's total population.

605.77 km^2

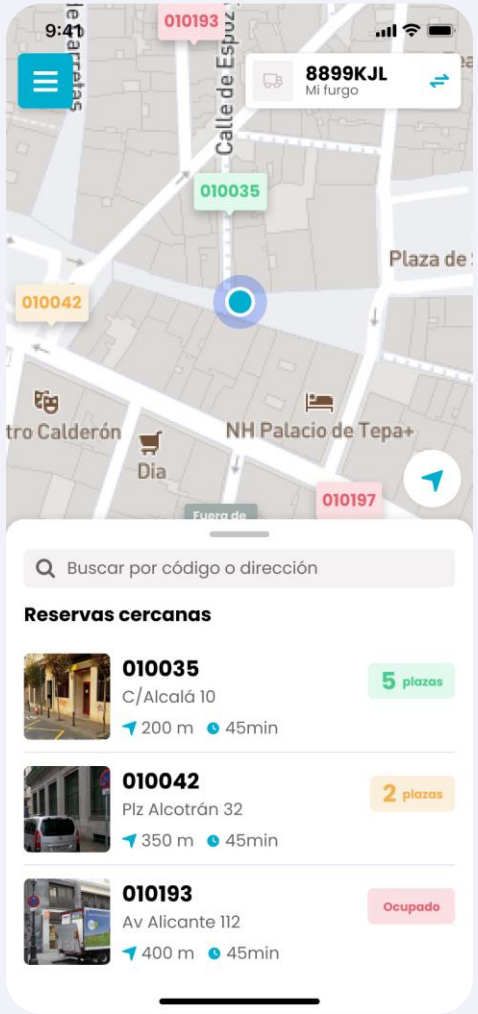
21 districts (128 neighborhoods).

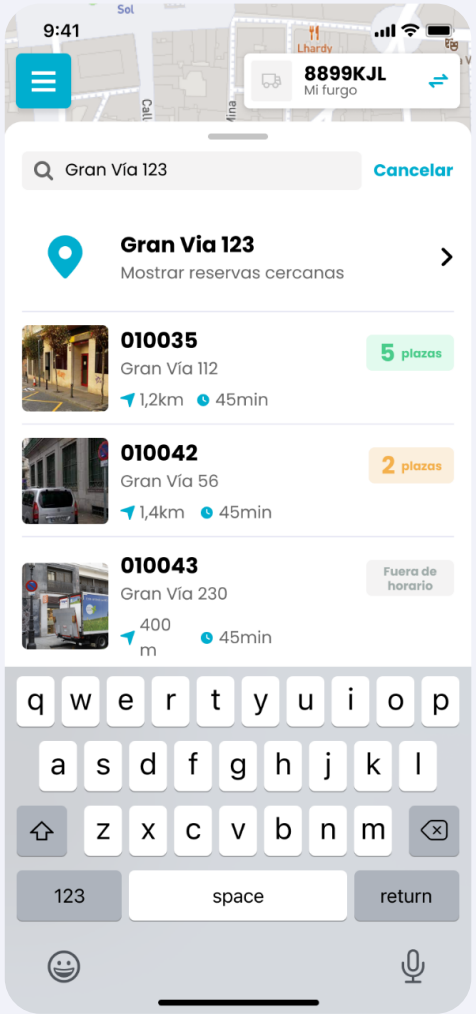
15,8 million daily trips on regional level, 13 million on urban level.

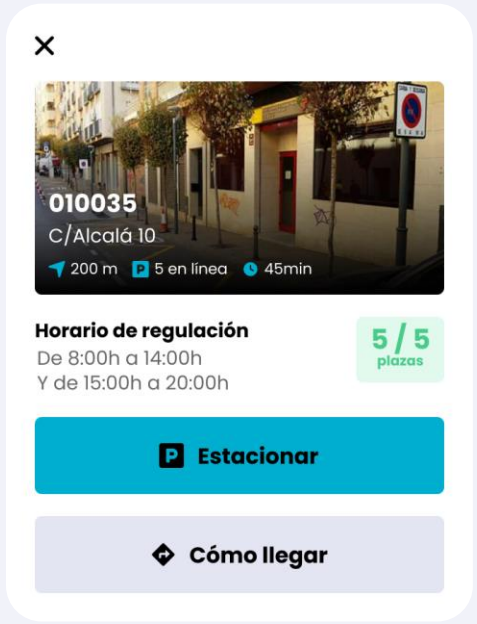
Urban Logistics Strategy: DUM 360

- Creation of an **application** to find out the **occupation of loading and unloading bays**
- The installation of **sensors** in loading and unloading bays to obtain more information on their use.
- Increasing the **number of zones** for the delivery of goods
- The **extension of the timetable** for carrying out logistics operations
- The implementation of **new signage**
- Creation of a **new team** to deal with **incidents in the sector** and monitor the proper functioning of the system.
- The promotion of **micro-hubs** through **public-private partnerships** to encourage **night-time delivery** of goods.
- The provision of new **lockers for e-commerce**
- The creation of an Urban Logistics forum to implement other measures resulting from dialogue with the sector.

Creation of an application to find out the occupation of loading and unloading bays







ALL LOADING ZONES ON YOUR MOBILE PHONE

TIME OF OPERATION, EXPIRY TIME, OCCUPANCY, AT A GLANCE

DIRECTS YOU TO LOADING ZONE

SENDS INFORMATION TO CALL CENTRE

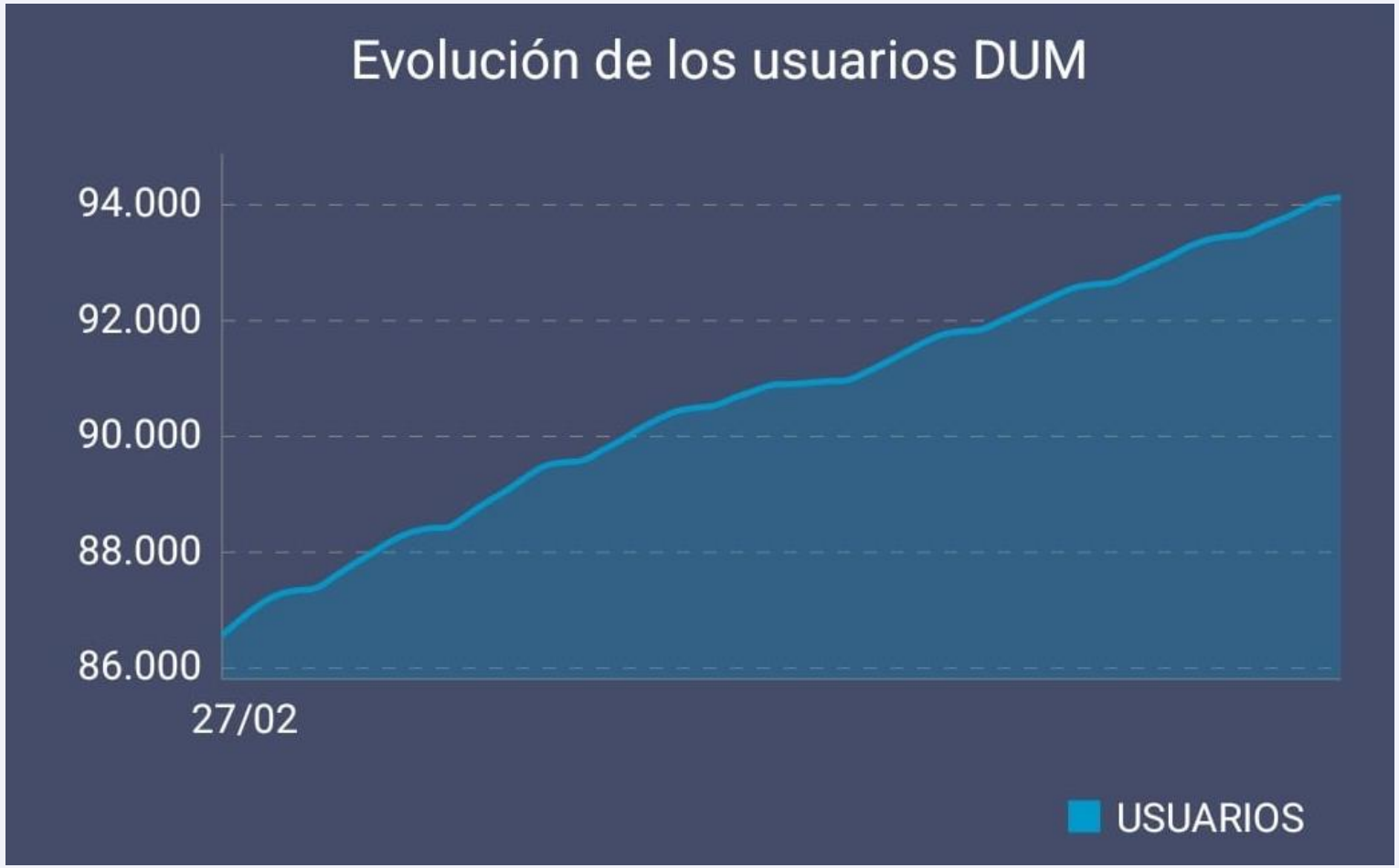
Creation of an application to find out the occupation of loading and unloading bays

- Launch in October 2022
- 1 year trial period
- Mandatory use since September 2023

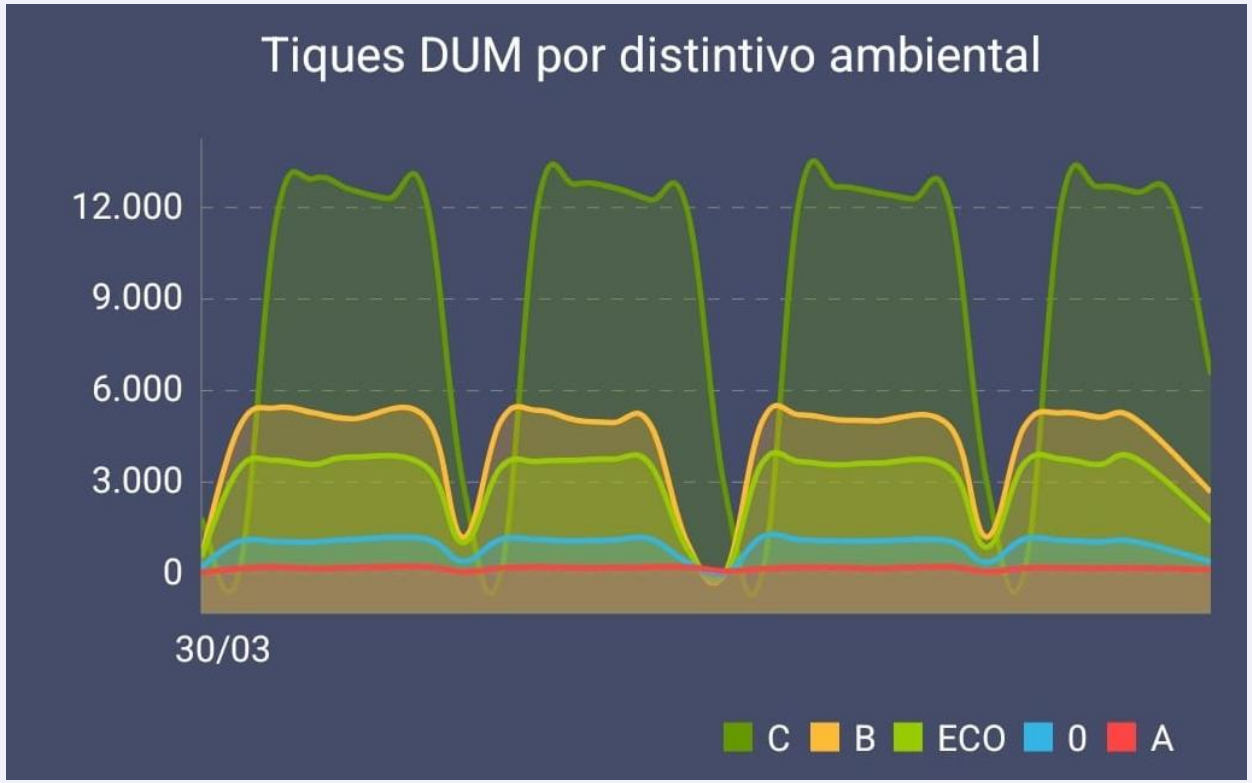
Features of the application

- ➢ Consult the occupancy of loading and unloading spaces in real time.
- ➢ Obtain your parking ticket

- 94,000 users registered in the system.
- Over 4,000 users registered per month over the last 3 months.



Generation of New Urban Logistics Data



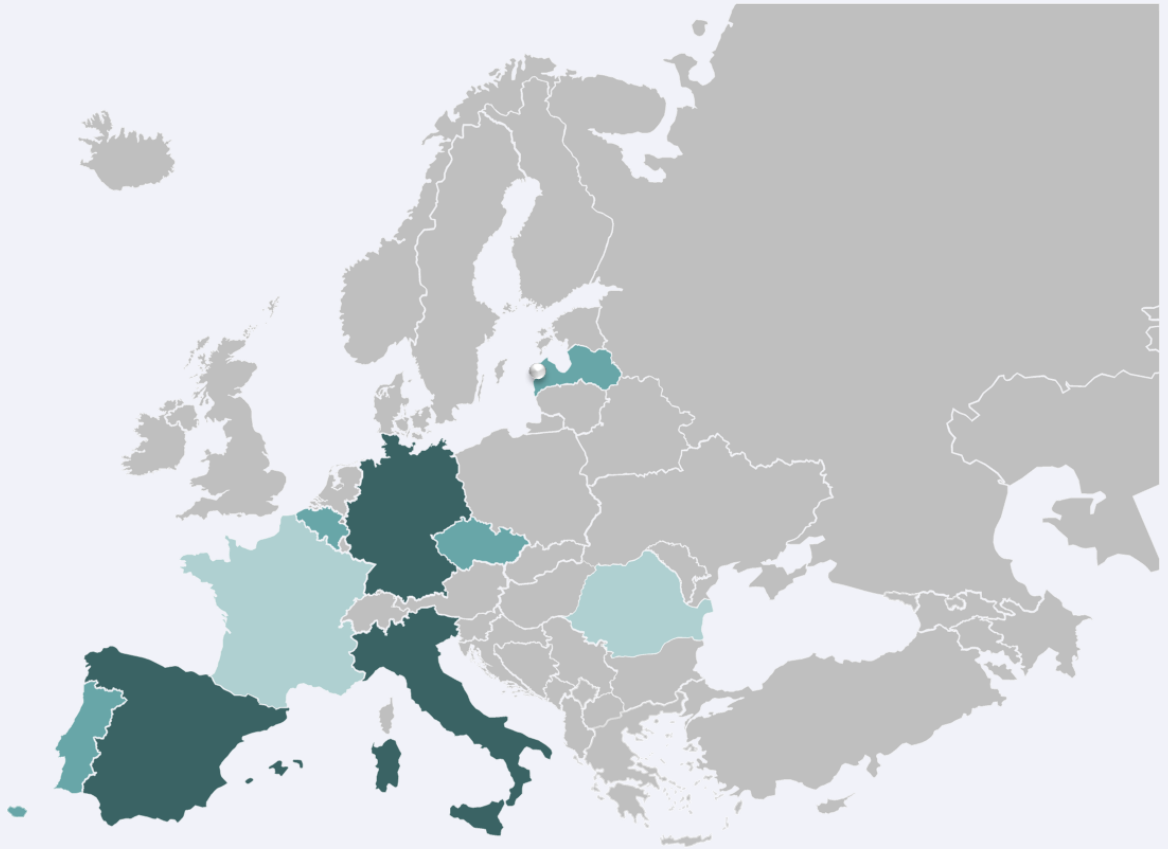
- “C” vehicles are the most common
- Tickets for “A”, “B” and “C” vehicles last 25 minutes on average. Over [illegible] “ECO” and “C[illegible]

Barriers for Urban Logistics development

- Resistance to change: Urban Logistics as a traditional sector with fixed habits and customs
- Technological and data: lack of knowledge of Urban Logistics deficits in Madrid
- Institutional coordination: significant weight of the private sector in the planning of Urban Logistics operations
- UVARs and other mobility policies: traffic restrictions that impose on the urban logistics system

Opportunities: international projects

European Project: UNCHAIN



UC1: Promotion and optimization of shared transport facilities

- UCC location and integrated planning KIT
- IT Pop-Up delivery points management tool
- Advanced Management IT cockpit for shared facilities

UC2: Efficient and safe urban logistics

- Congestion forecasting and safe route planning

UC3: Dynamic and efficient curbside management

- Dynamic curbside management

Pedro Fernandez

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MADRID 360

Urban Logistics Innovation Day 2024

Keynote Speeches

Fernando Liesa
Secretary General
ETP-ALICE

Yannick Bousse
Project Adviser at
CINEA

Koen Mommens
Professor at Vrije Universiteit Brussel (VUB)

Research and innovation in EU funded urban freight and logistics projects

Urban Logistics Innovation Day: Physical Internet, Digitalisation & Sustainable Urban Logistics

Tuesday 4 June 2024, Brussels

Yannick BOUSSE, Project Adviser

European Climate, Infrastructure and Environment Executive Agency

Unit C3 - Horizon Europe Transport

CINEA GREEN DEAL PROGRAMMES

HORIZON EUROPE R&I
- Climate, Energy and Mobility -
EUR 9.6 billion

LIFE
- Environment -
EUR 4.7 billion

CONNECTING EUROPE FACILITY 2 (CEF)
- Transport & Energy -
Infrastructures
EUR 31.1 billion

EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY

European Maritime Fisheries Fund
EUR 0.3 billion

INNOVATION FUND
with ETS revenues
(depending on carbon price)
EUR 7.7 – 38 billion

Renewable Energy Financing Mechanism
EUR 0.5 billion

Just Transition Mechanism
EUR 1.5 billion

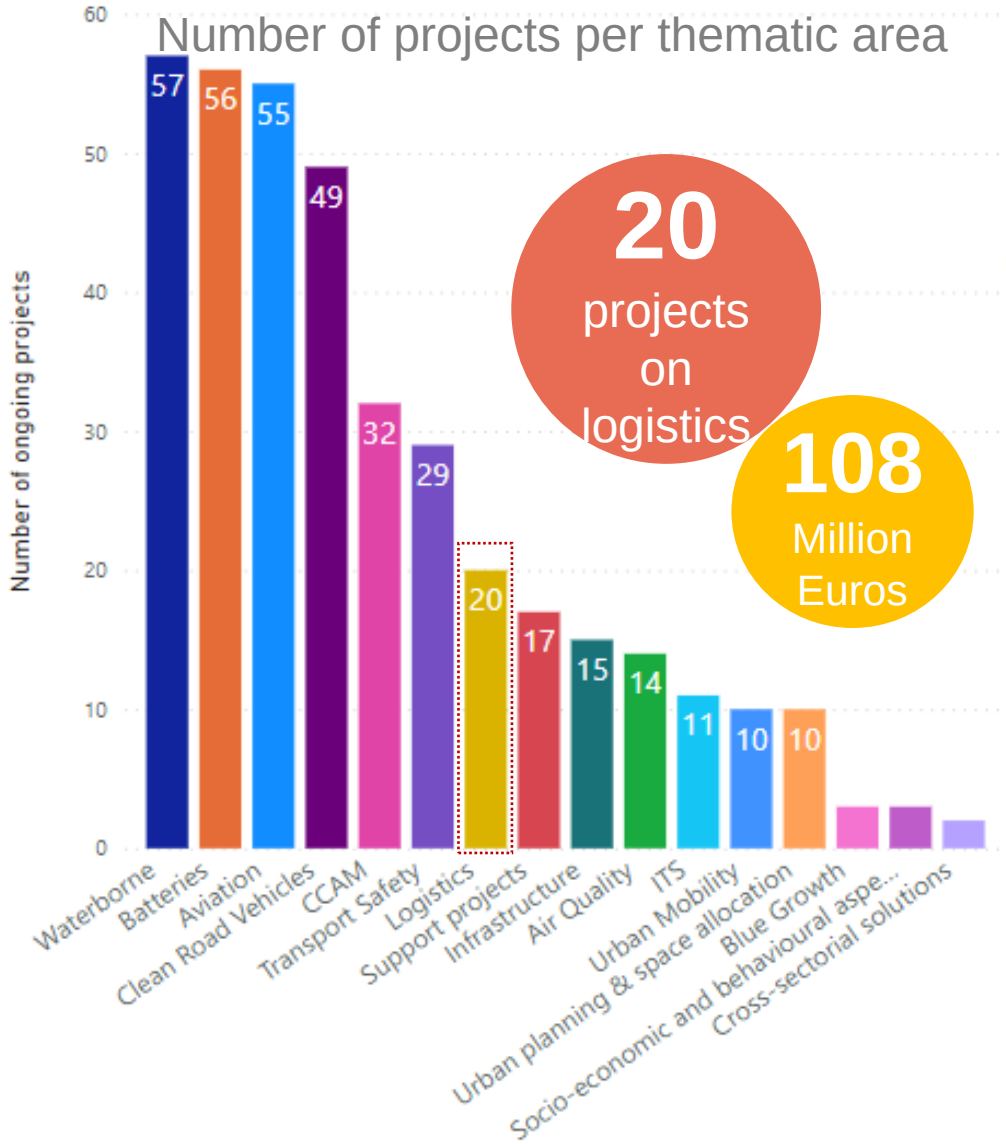
> 500 staff

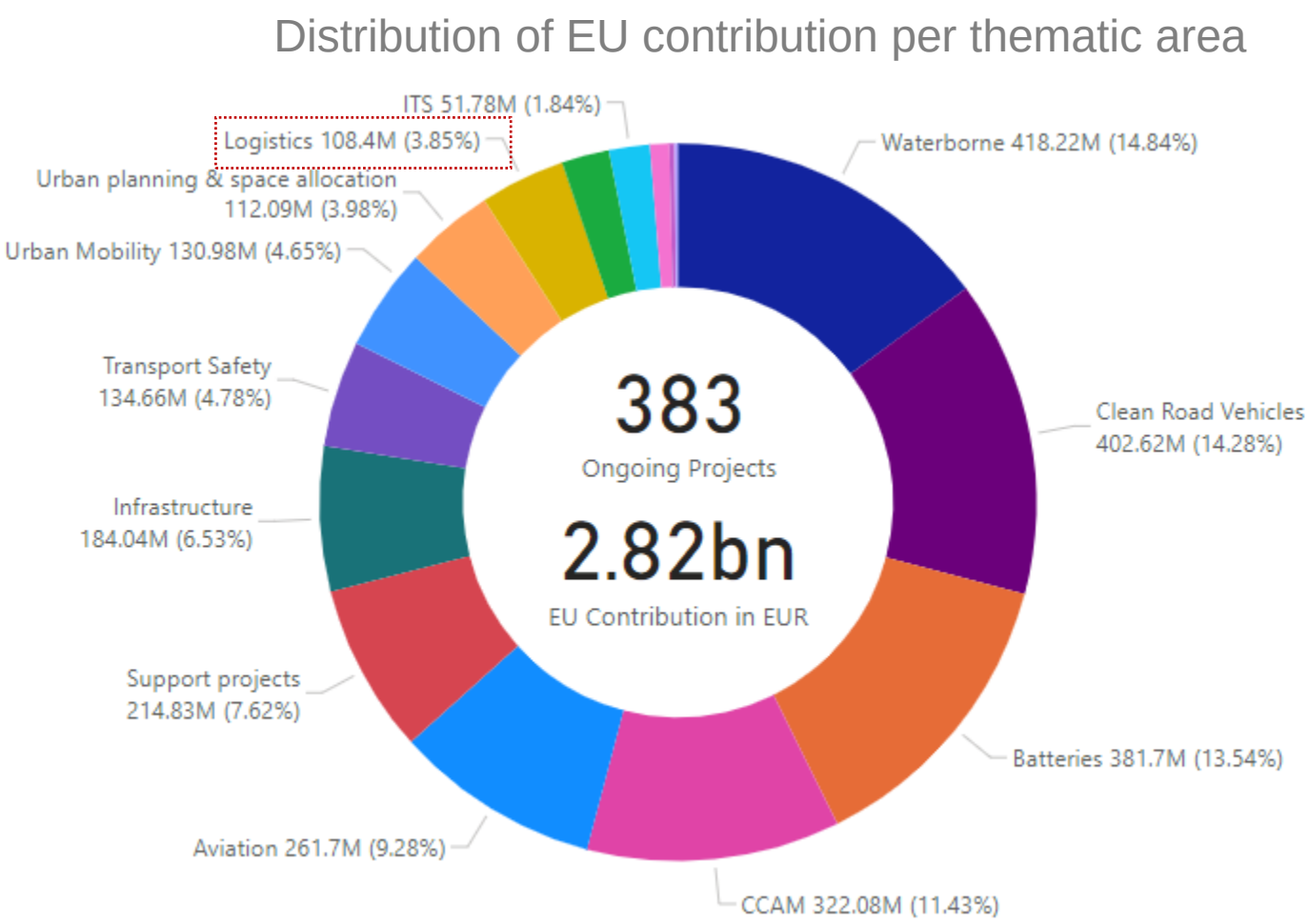
From 2800+ projects managed in 2021 to > 4500 projects in 2027

> 55.4 billion (2021-2027)

17

ONGOING TRANSPORT R&I PROJECTS





Data extracted 12 April 2024

European Commission

FUNDING URBAN FREIGHT AND LOGISTICS RESEARCH AND INNOVATION

Horizon 2020		Horizon Europe		
2019	2020	2021	2022	2023
Shared-connected and low-emission urban logistics operations	Cities as climate-resilient, connected multimodal nodes for smart and clean mobility	New delivery methods to green the last mile	Urban logistics planning and digitalisation	Zero-emission e-commerce and freight delivery and return choices
Senator	MOVE 21 SCALE-UP User-Centric & Data Driven Solutions for Connected Urban Poles	DECARBOMILE	DISC	GreenTurn
LEAD	Next generation electrified vehicles for urban and suburban use	URBANE	unchain	CodeZERO
ULaDS URBAN LOGISTICS AS AN ON-DEMAND SERVICE	URBANIZED	GREEN-LOG		

European Commission

URBANE

Aims to develop novel, sustainable, and effective last-mile logistics delivery solutions, combing green automated vehicles and shared space models.

Goals (2/5):

- **PROVIDE** evidence of the impact of Physical Internet's introduction in real-world last-mile deliveries.
- **ENABLE** transferability of innovative solutions through digital twinning capabilities and data driven decision making tools.

Bologna micro-hubs networks and light electric delivery vehicles to implement Physical Internet last mile deliveries

- Three micro consolidation centres for the transhipment of parcels.
- PI CONCEPT: Concrete step towards PI concept as two transport operators are collaborating in the distribution of the parcels in the boxes.

https://www.urbane-horizoneurope.eu

European Commission

DECARBOMILE

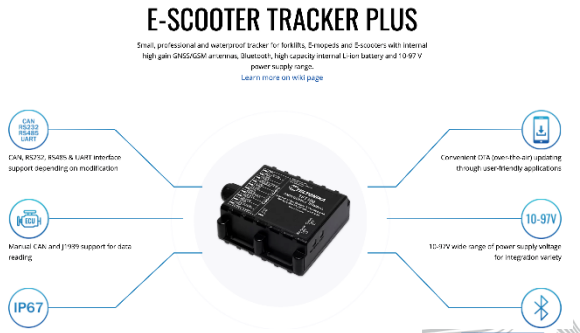
Aims to develop interoperable and multimodal logistics solutions for decarbonised last-mile delivery in urban contexts.

Goals (1/5):

- **INTEGRATE** optimisation and collaborative algorithms into a digital infrastructure.

Logroño developing track & trace & monitor (T&T&M) tools

- Providing hardware sensors and ensuring their adaptation of the delivery vehicles.
- Six sensors delivered and installed, collecting data and allowing for direct monitoring of the vehicles' operating parameters.



https://www.decarbomile.eu/

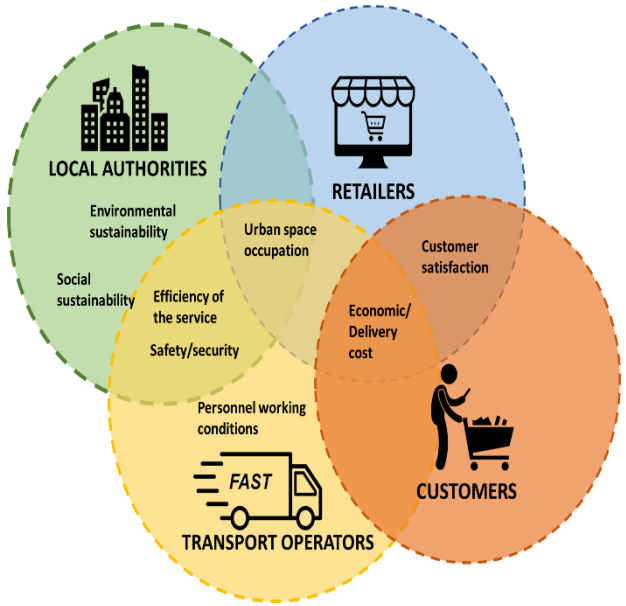
European Commission

CodeZERO

Aims to co-create sustainable and zero-emission last-mile delivery and return solution for e-commerce that are also attractive to consumers.

Goals (3/6):

- **UNDERSTAND** consumers' preferences for existing delivery offering.
- **CO-DESIGN** sustainable delivery and return options.
- **SUPPORT** local authorities in developing sustainable last-mile delivery policies.



Antwerp Use Case

- Increasing awareness of consumers and encouraging them to choose for more sustainable delivery options.
- Test different types of communication to customers via the web interface of the retailer to measure their impact on consumers' behaviour choice.

June 2024 – May 2027

European Commission

“Achieve essentially CO2-free city logistics in major urban centres by 2030”

Transport White Paper, 2011

European Commission

DEVISE, DEVELOP AND DEMONSTRATE THE URBAN MOBILITY FRAMEWORK

City logistics **essential** to the functioning of urban economies. **Increase in last-mile deliveries** likely to persist.

CodeZERO GreenTurn

Collaboration between local authorities and private stakeholders need to share knoweldge on sustainble **urban logistics management and planning**.

DISC unchain

Reinforced **role of urban nodes** in the revision of the TEN-T Regulation, better integration of cities as logistics hubs

SCALE-UP User-Centric & Data Driven Solutions for Connected Urban Poles MOVE 21

Significantly increase the **roll-out of zero emission vans** used for urban logistics.

URBANIZED

Accelerate **developing and deplying sustanable solutions** such as cargo bikes, new distribution models, dynamic routing, and a better multimodal connected use of urban rail and inland waterways. **Optimise the use of vehicles and infrastcuture…**

GREEN-LOG DECARBOMILE URBANE

More work is necessary at EU level on assessing the need for **more urban freight data collection and sharing.**

DISC unchain

European Commission

UPCOMING FUNDING OPPORTUNITIES

Horizon Europe Cluster 5
Destination 6 – Safe, Resilient Transport and Smart Mobility for passengers and goods
Deadline 5 September 2024

HORIZON-CL5-2024-D6-01-06

Optimising multimodal network and traffic management, harnessing data from infrastructures, mobility of **passengers and freight transport**

HORIZON-CL5-2024-D6-01-07

Scaling up **logistics innovations** supporting freight transport decarbonisation in an affordable way

HORIZON-CL5-2024-D6-01-09

Policies and governance shaping the future transport and mobility systems

HORIZON-CL5-2024-D6-01-11

Effects of **disruptive changes in transport**: towards resilient, safe and energy efficient mobility

Further info: Funding & Tenders Portal

European Commission

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Thank you

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CINEA - European Climate, Infrastructure and Environment Executive Agency

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Urban Logistics Innovation Day 2024

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The latest trend of Physical Internet – A Report from the International Physical Internet Conference (IPIC) 2024

Fernando Liesa

Secretary General

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ALICE Roadmap Towards Zero Emissions Logistics

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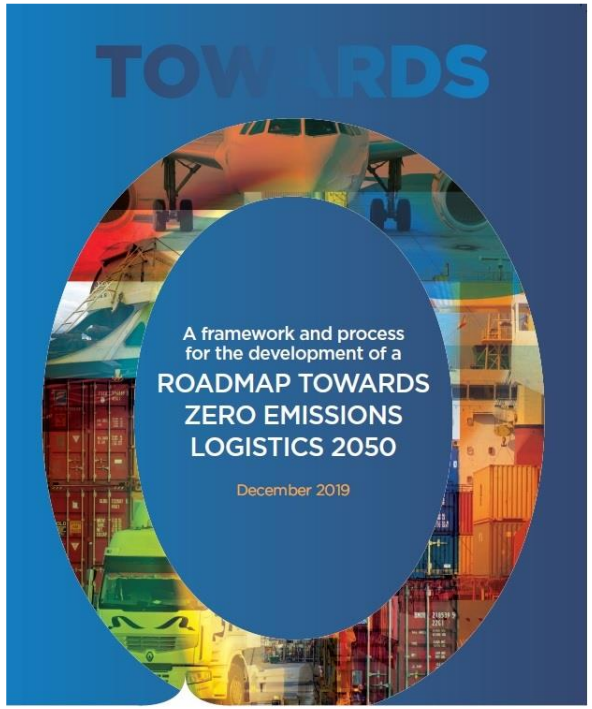

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With the support of: LEARN

Link to the document

FREIGHT DEMAND GROWTH IS MANAGED

- Supply chain restructuring
- Localization and nearshoring
- Decentralization of production and stockholding
- 3D printing
- Dematerialization
- Consumer behavior

TRANSPORT MODES ARE SMARTLY USED AND COMBINED

- Increased use of rail
- Increase use of short sea shipping and inland waterways
- Modular road transport
- Cargo bikes
- Multi-modal optimization
- Synchromodality

FLEETS AND ASSETS ARE SHARED AND USED TO THE MAX

- Load optimization
- Load consolidation and asset sharing
- Reduce empty moves
- Modular packaging and boxes
- Open transport networks and warehouses
- Increase storage density and energy efficiency

FLEETS AND ASSETS ARE ENERGY EFFICIENT

- Cleaner and efficient technologies
- Efficient vehicles and vessels
- High capacity vehicles / duo trailers
- Driving behavior
- Fleet operation
- Fleet maintenance

FLEETS AND ASSETS USE LOWEST EMISSIONS ENERGY SOURCE FEASIBLE

- Electric / hybrids
- Solar / Wind
- Biofuels
- Hydrogen
- CNG/bio-LNG
- Cleaner diesel
- Fuel management

 Roadmap Towards Zero Emissions Logistics 2050. ALICE (2019) www.etp-alice.eu

1 **Report** credible emissions and set science-based reduction targets

2 **Reduce** emissions by developing and implementing action plans

3 **Collaborate** and advocate for sector-wide uptake

ALICE Rodmaps & Urban Logistics

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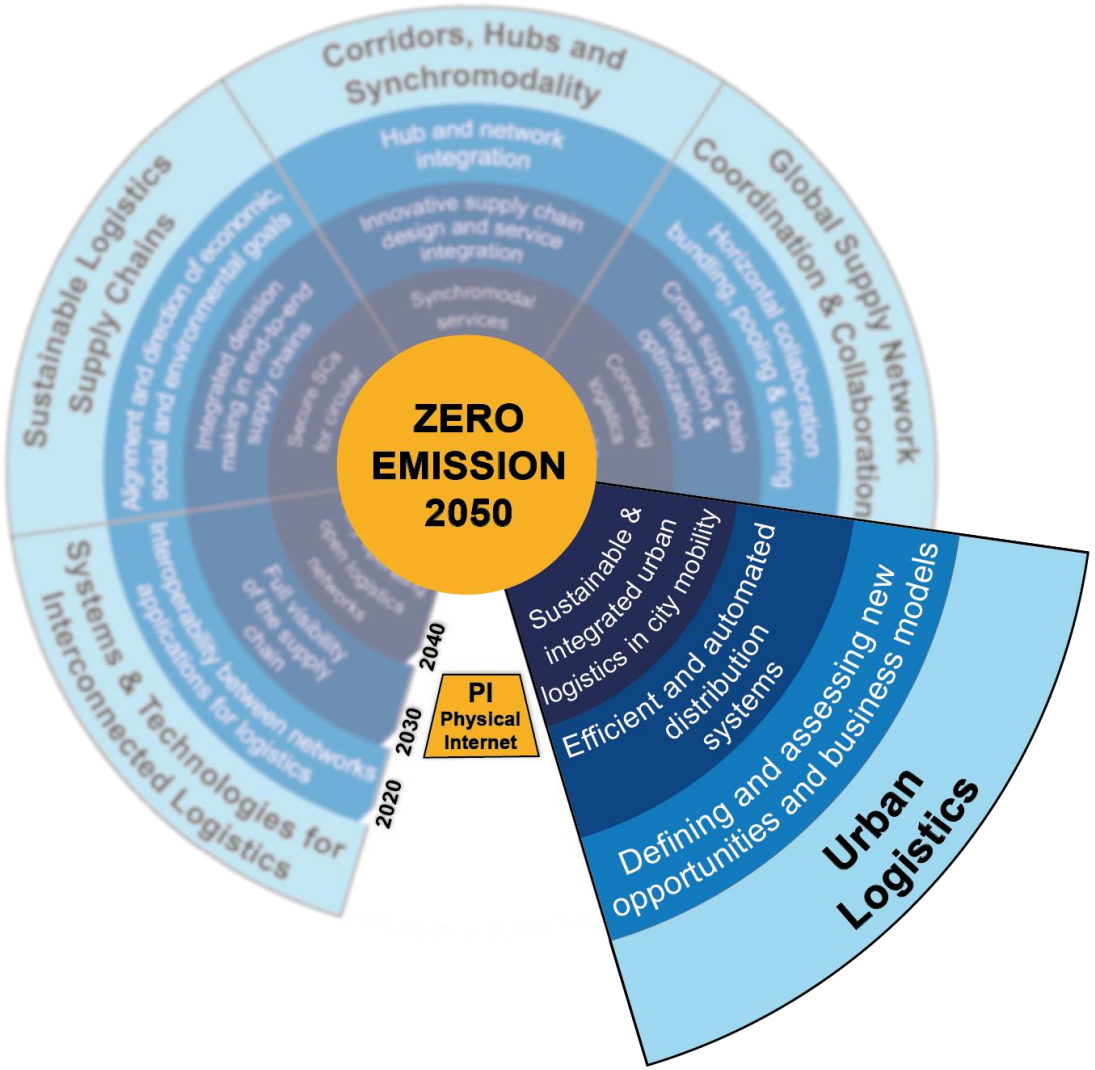
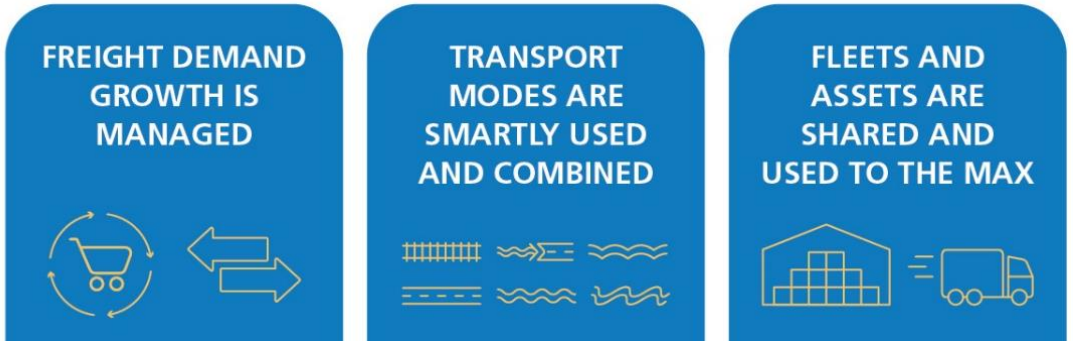
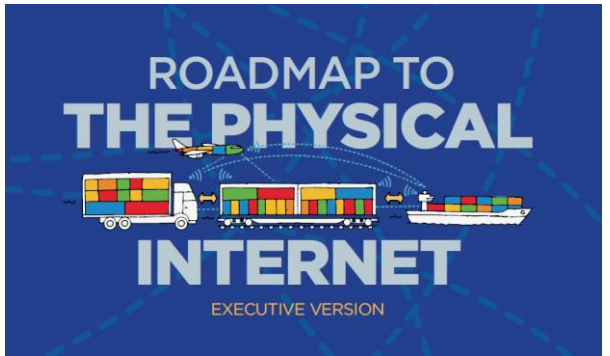




freight transport and logistics is climate neutral and zero emission

Physical Internet paves the way to achieve this transition in an affordable way



Link to PI Roadmap

Joint guide advancing towards zero-emissions urban logistics by 2030

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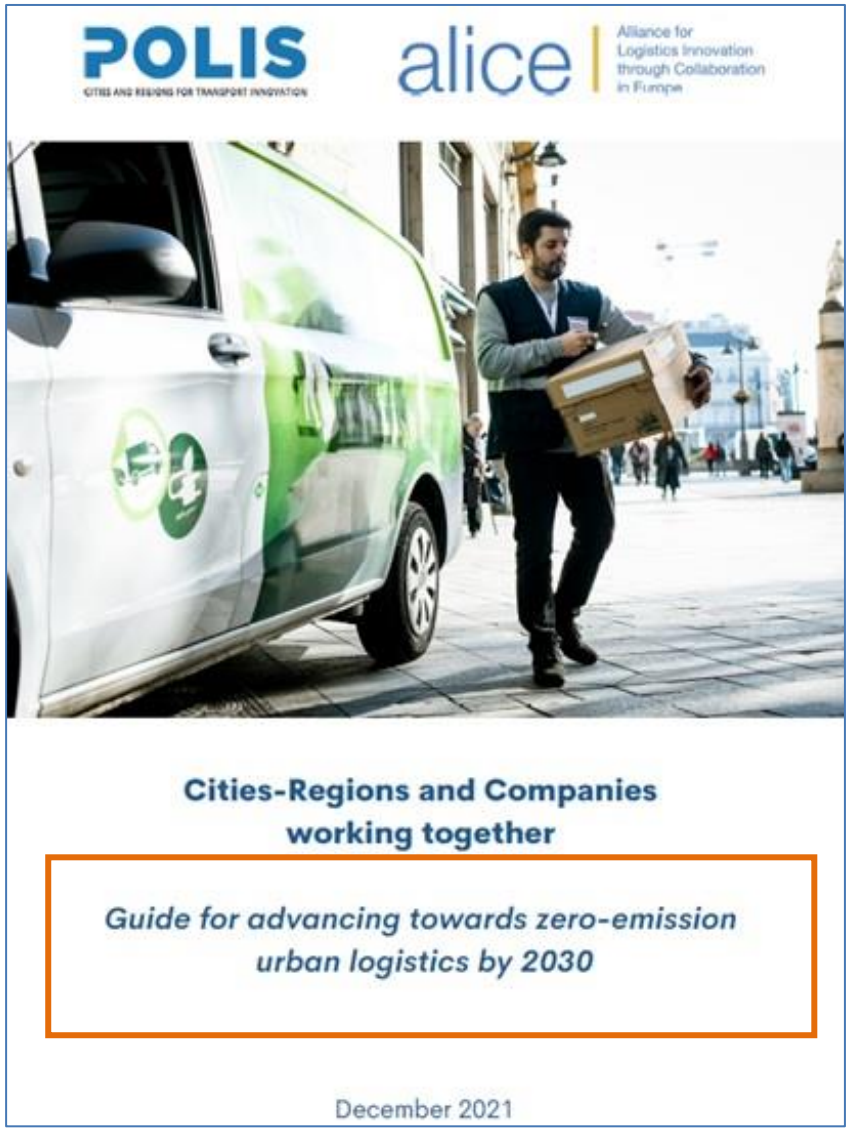

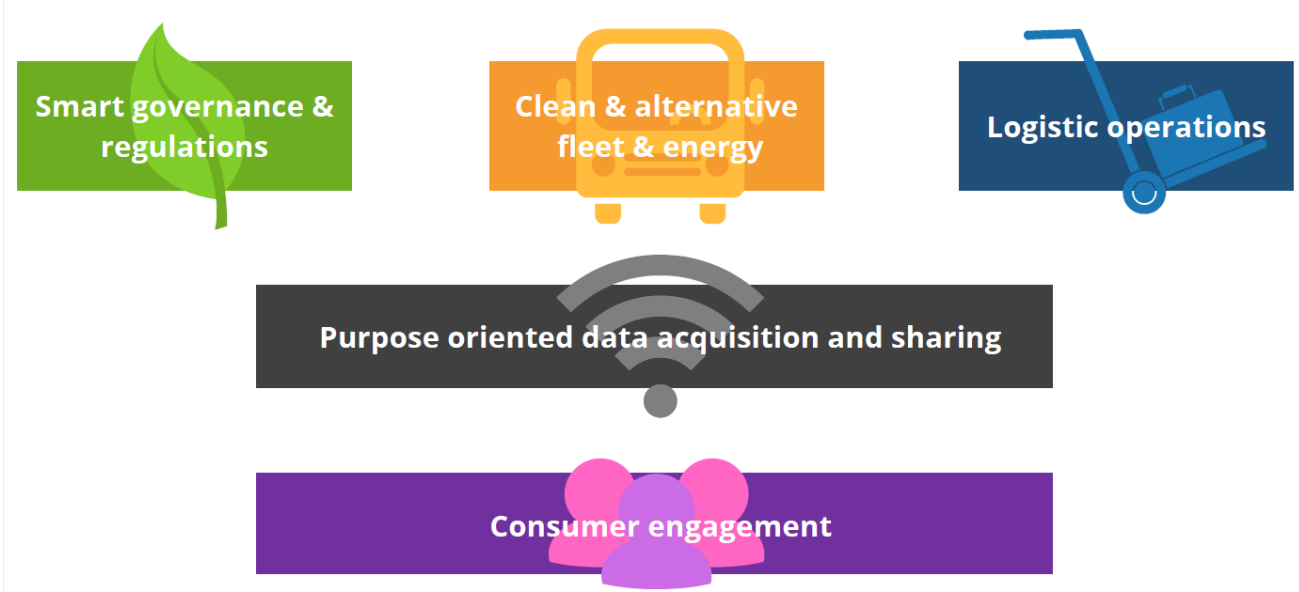

IPIC 2024 general takeaways

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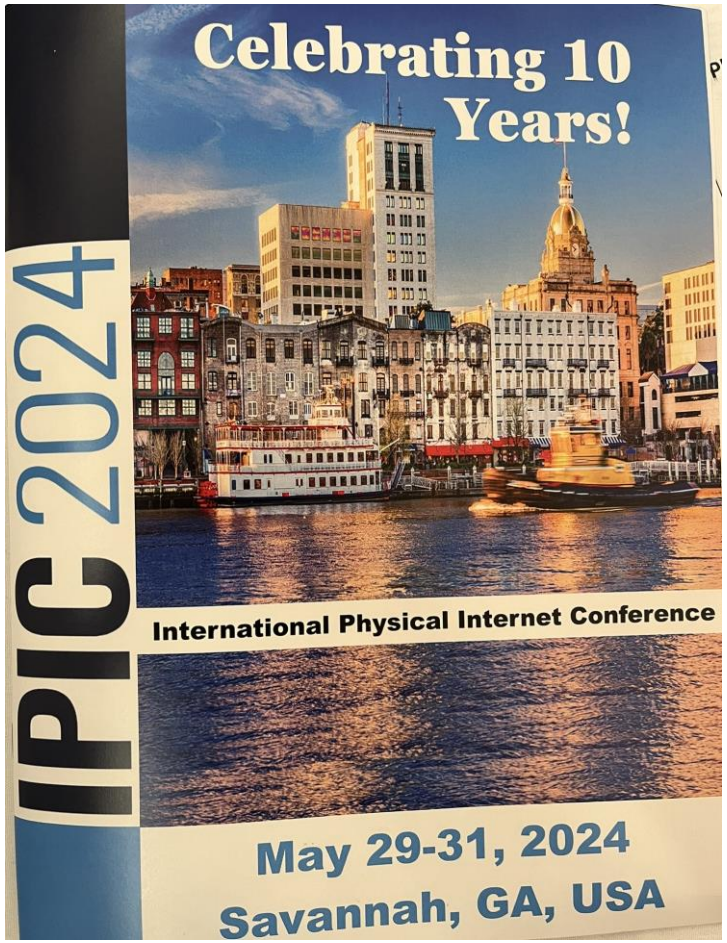
- **Physical Internet more and more relevant** with initiatives in Australia, Canada, China, Europe, Hong Kong, Japan and USA.
- **Common challenges /opportunities** for logistics worldwide: energy transition implications, intermodality, driver shortage & transport capacity, efficiency & load factors / digitalization and technologies.
- Japan creates obligation for **Chief Logistics Officer** in big corporations and creates the **Physical Internet Realization Council**
- PI concepts applied internally in **individual company logistics networks: *Physical Intranets*** e.g. e-commerce parcel delivery networks.
- Physical Internet is more than transport and logistics: Modular construction/manufacturing



10th IPIC anniversary conclusions: *10 years ago we had many question and very few answers, we are getting more and more answers, but also more questions are opening*

Plenary Session F-1:
Toward Physical Internet Enabled Hyperconnected City Logistics

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Synchromodal Urban Delivery Service Project in Bordeaux, France. Olivier Labarthe, Kedge Business School, France

Panel Discussion: **Louis Faugere** (Amazon), **Eric Ballot** (Mines Paris Tech), **Rod Franklin** (KLU) & **Olivier Labarthe** (KEDGE Business School)

- **Local/regional authorities have a growing impact on urban logistics:**
  → Plan and regulate access to space, infrastructure and other aspects creating a framework for urban logistics.

- **Importance vs resources allocated.** 1-6 Billion € externalities of logistics vs 1-2 persons in charge of managing urban logistics in local/regional authorities (e.g. Paris,/Ille de France)

- Local/regional authorities have a **gap in understanding the flows of goods in their geographical scope** → Key for proper planning and space allocation and evaluation of measures.
  - **Mobile data** used to detect and classify movements of all types of objects: GDPR compliant

"When you see the data you realize people need to make decisions without proper information"

IPIC 2024 – highlights on Urban Logistics: Innovative examples

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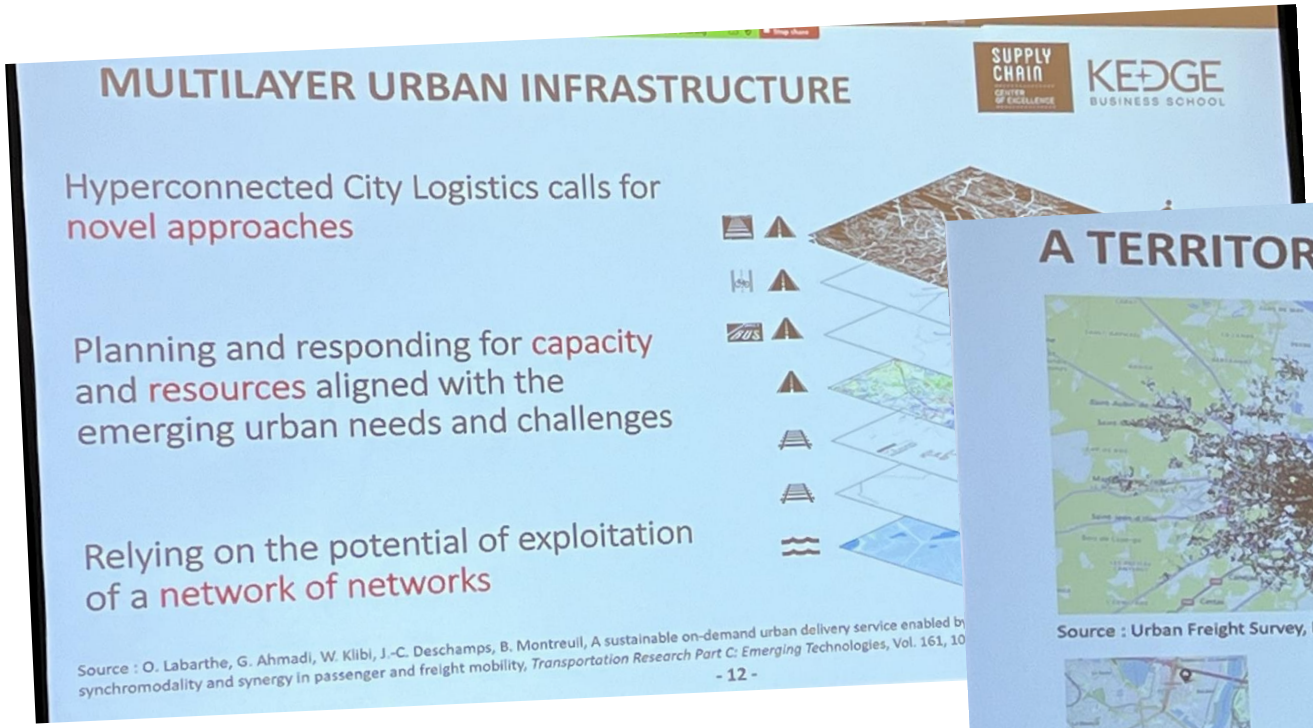
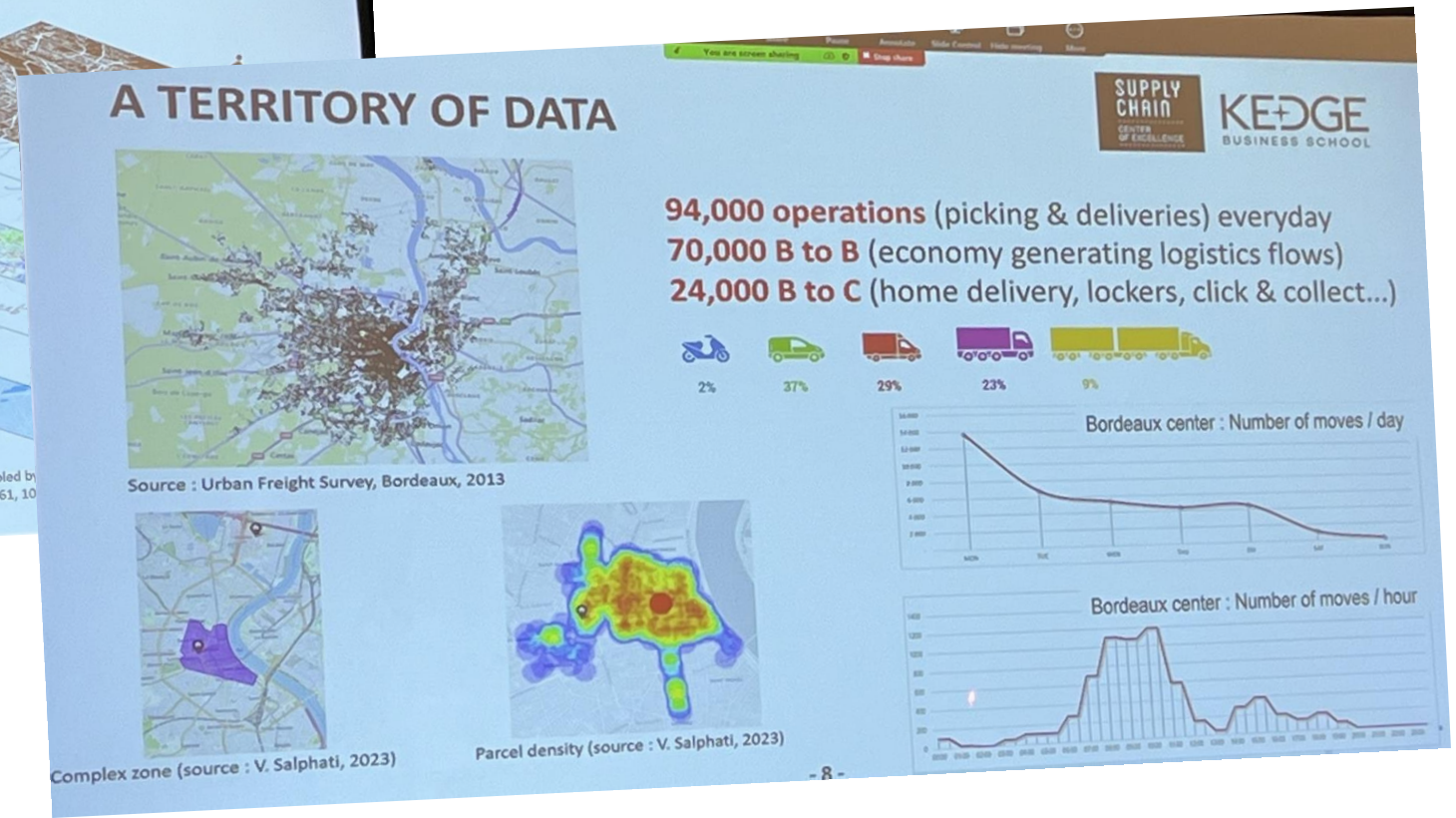
How to better use transport capacity in city (Bordeaux, KEDGE Business School)

- Use spare capacity of metro/tram in valley hours.
- Infrastructure is mostly used for its purpose in specific time windows → other usages?
- Use of parking for logistics operations as the car van in cities advances.

IPIC 2024
10th International Physical Internet Conference
May 29-31, 2024
Savannah, GA USA





IPIC 2024 – highlights on Urban Logistics: Research & Innovation topics

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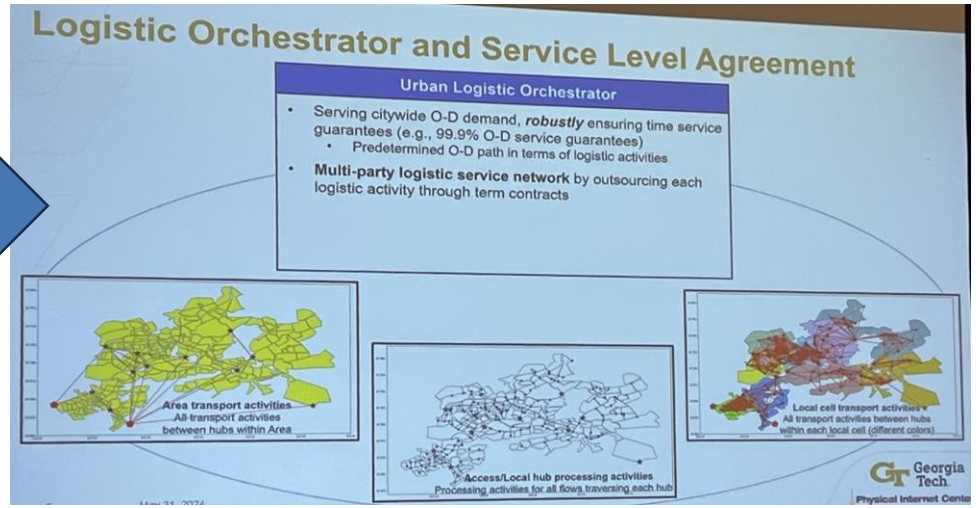
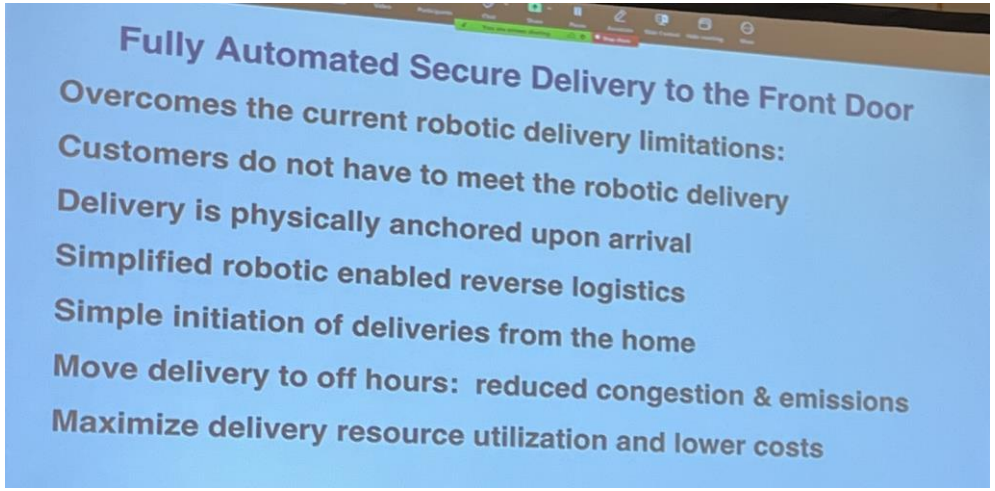
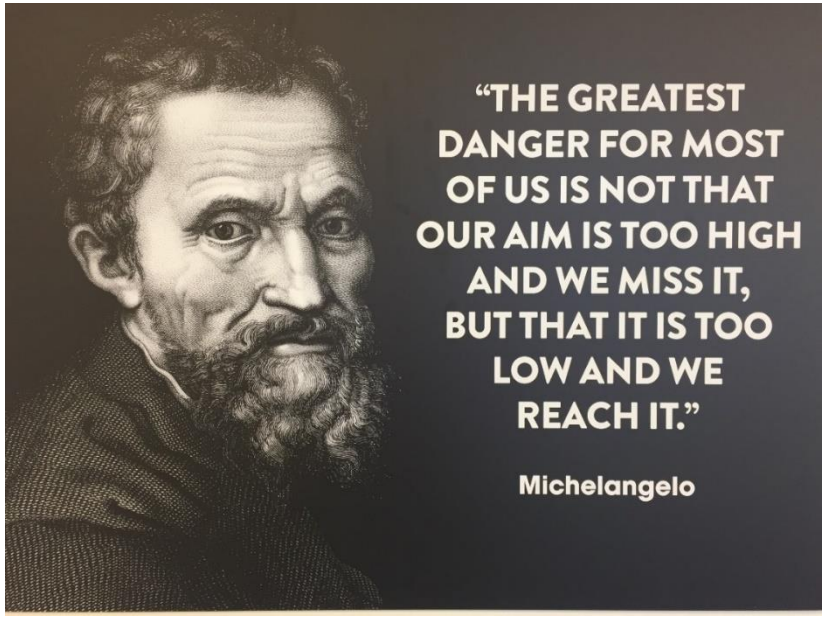
Using combinatorial auctions to allocate parcel logistic services in Hyperconnected City Logistics. Simon Kwon, Walid Klibi, Mathieu Dahan and Benoit Montreuil



Unlocking the Future of Last Mile Delivery: Automated, Smart, Secure & Sustainable Solutions Right to Your Doorstep. David Ruth, CEO, MOTOGO Systems, USA



Driving containerization to the customer → reduce packaging waste (Ref: MOTOGO)



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Thank you!

The Best Way To Predict The Future Is To Create It!

Source: President Abraham Lincoln

If you want to go fast, go alone If you want to go far, go together

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Urban Logistics Innovation Day 2024

Keynote Speeches

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VUB mobilise
analysing sustainability, mobilising people

POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

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Physical Internet

Prof. Koen Mommens

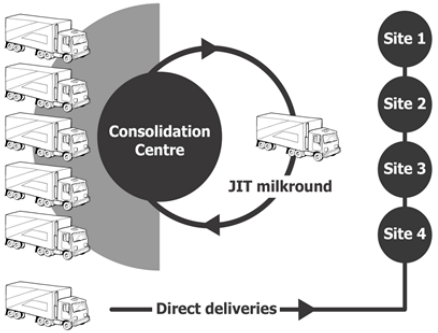
Urban Logistics Innovation Day
4 June 2024 - Brussels

Vision

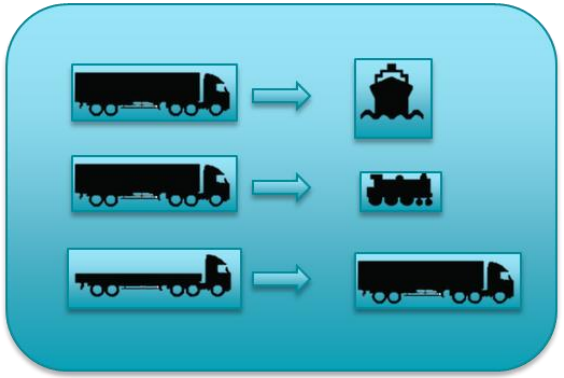
Future logistics, from global to urban, will be founded on a global open system of systems enabling assets and resources in logistics networks to be interconnected facilitating their use to the maximum capacity and productivity while increasing agility and resilience of supply chains. We call this vision the **Physical Internet (PI)** and it will support the affordable transition of assets towards **Zero emissions logistics**.

Awareness

Avoidance



Act & shift

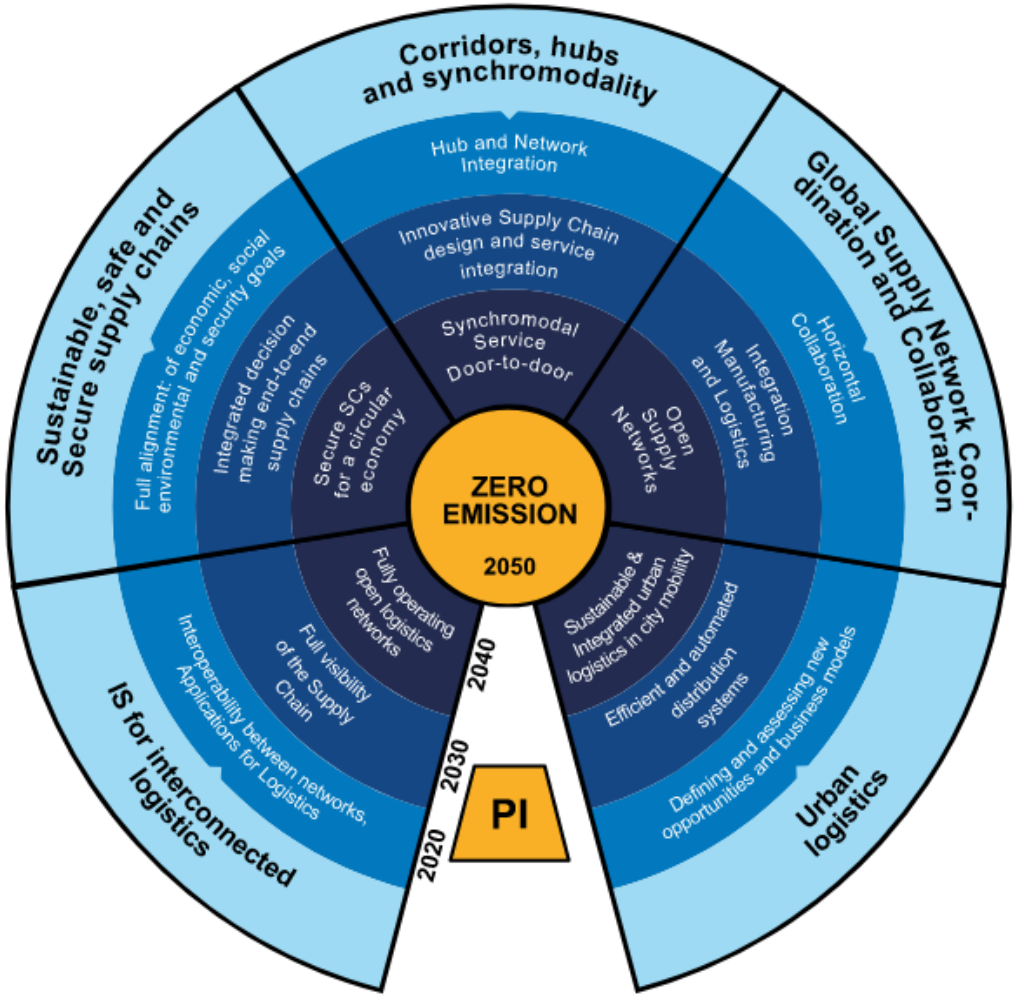


Anticipate

Macharis and Kin, 2016

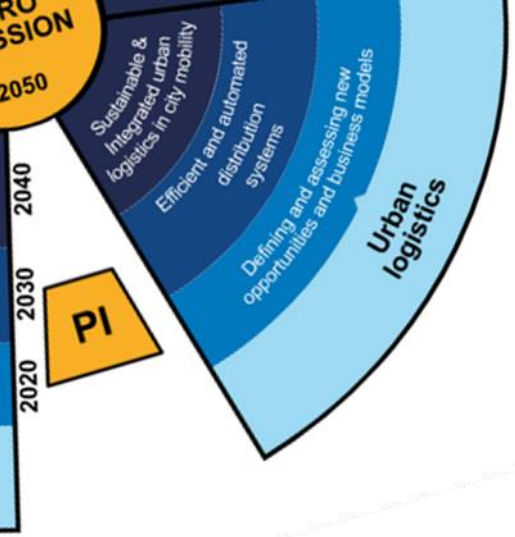
Physical Internet

Physical Internet roadmap in urban logistics



1. Defining and assessing new **opportunities and business models** by 2025
2. Efficient and **automated** distribution systems by 2035
3. **Sustainable** & **integrated** urban logistics in city mobility by 2050

Defining and assessing new opportunities and business models



sustainability

MDPI

Article

Tackling Fragmented Last Mile Deliveries to Nanostores by Utilizing Spare Transportation Capacity—A Simulation Study

Bram Kin [1,*], Tomas Ambra [1,2,3], Sara Verlinde [1,*] and Cathy Macharis [1]

TRAVISIONS

processes

MDPI

Article

A City Logistics Distribution Model: A Physical Internet Approach

Jianxun Li [1], Haoxin Fu [2], Kin Keung Lai [3,*] and Bhagwat Ram [4]

and many more...

URBANE

Lighthouse Living Labs:
Helsinki (FI), Bologna (IT), Valladolid (ES), Thessaloniki (GR)

Twinning Living Labs:
Barcelona (ES), Karlsruhe (DE)

Follower Cities:
Aarhus (DK), Antwerp (BE), La Rochelle (FR), Mechelen (BE), Prague (CZ), Ravenna (IT)

21/04/2022 2 minutes reading time

Madrid: Urban Consolidation Center supported by a Digital Twin

Madrid is an important logistics hub, located within the Atlantic and the Mediterranean TEN-T corridors. Since the pandemic outbreak, the city experienced a substantial increase in

Read more... →

27/03/2024 2 minutes reading time

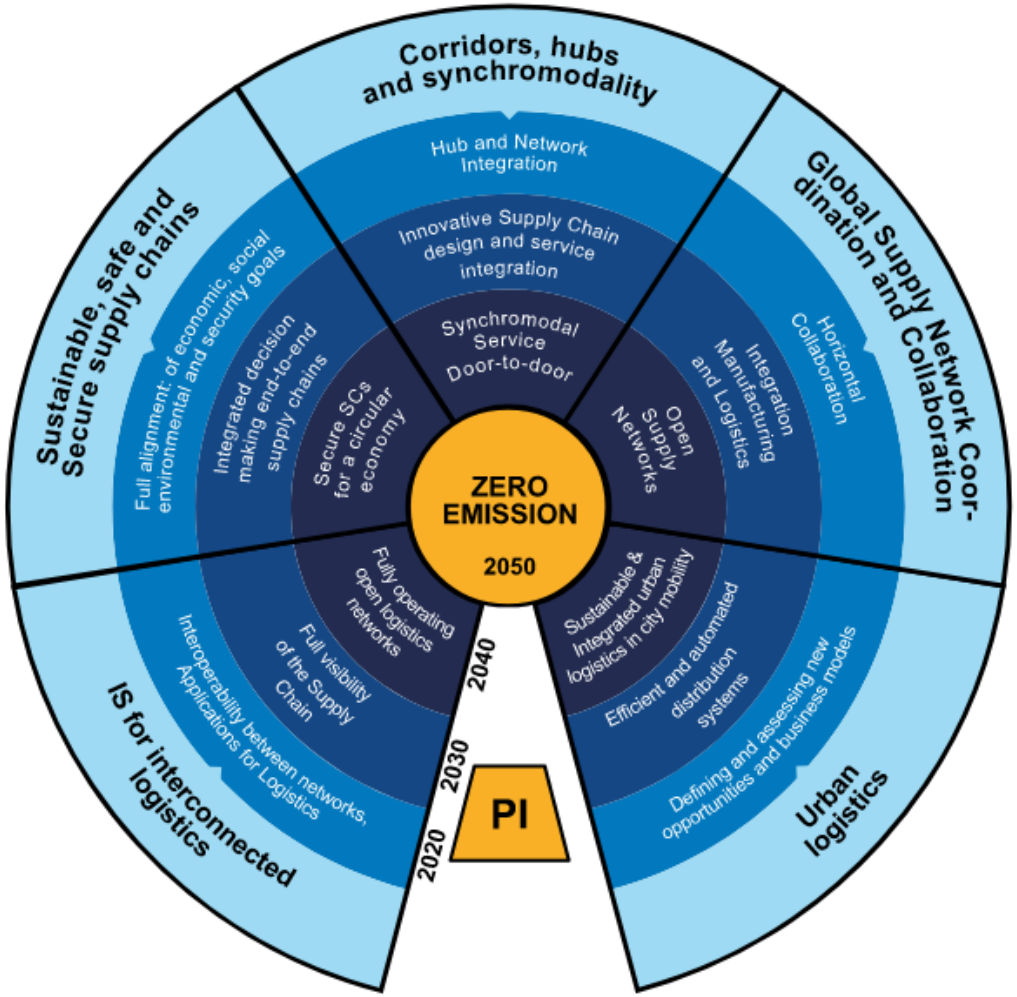
Rome SULP: Physical Internet as backbone for future freight transport

The annual growth rate of urban logistic market is more of 8%. This rate is expected to remain stable at least until 2030.

Read more... →

https://marketplace.eiturbanmobility.eu/best-practices

Physical Internet by 2035-2040, but



Zero emission target for urban logistics will not be 2050

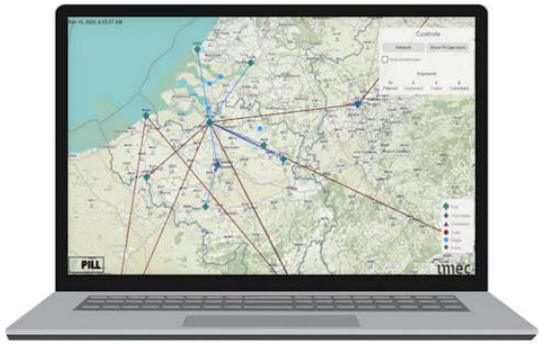
"achieve essentially CO_2 -free city logistics in major urban centres by 2030"
(European Commission - White Paper Transport 2011)

"At the latest by 2025, city centres will be served only by emission-free vehicles"
(Vlaams Regeerakkoord 2019)
Ghent mainly emission-free logistics in city centre by 2030

35 zero-emission zone for urban logistics confirmed throughout Europe
(Clean Cities Campaign, 2022)

Earlier PI deployment for urban logistics is desirable

CAN WE ACCELERATE?



PILL (Physical Internet Living Lab)

- Lack of trust hampers implementation and opportunities
- Unlocking the Potential of the Physical Internet: a Trust-enabling Decentralized Process Sharing Connector

Table 1 *Definition of the Trust Drivers for PI*

Trust Driver	Explanation
Adoption	Trust in a partner's decision-making regarding routes, policies, and technologies that affect joint outcomes.
Altruism	The commitment to prioritize collective benefits over individual interests within collaborative settings.
Compliance	Adherence to agreed norms, standards, and obligations, ensuring reliability and predictability in collaborations.
Confidentiality	The assurance that data and cargo information are accessible only to authorized parties, safeguarding against unauthorized exposure.
Control	The ability to exercise authority over one's data and cargo, ensuring decisions align with individual or organizational preferences.
Interest	The anticipated personal or organizational gains derived from participation in collaborative endeavours.
Reputation	The perceived reliability based on an entity's historical behaviour and adherence to ethical standards.
Transparency	The clarity and availability of relevant information and the traceability of assets, fostering openness and accountability.

Sun et al., 2024

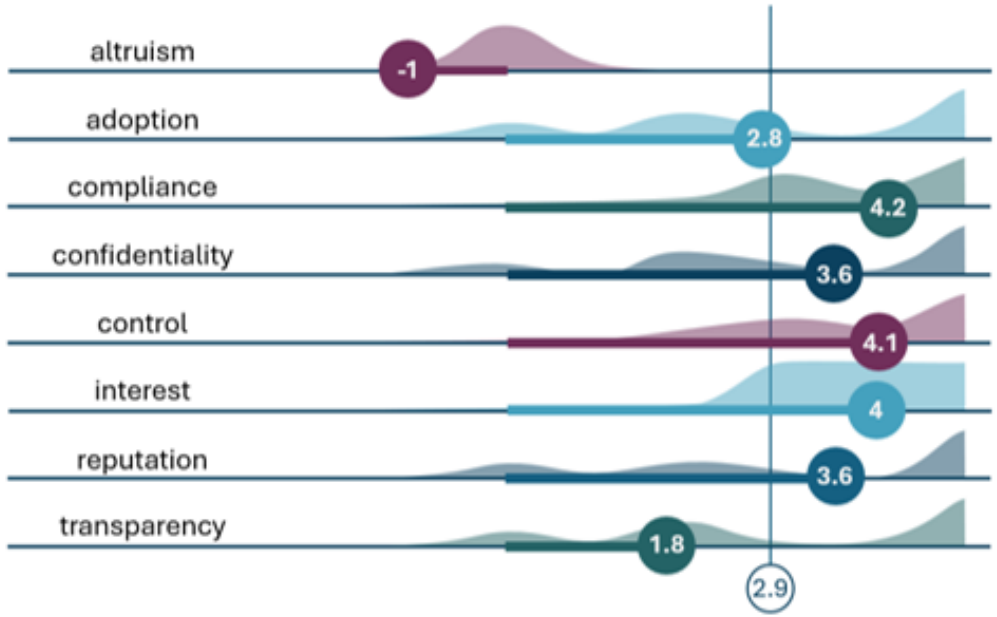


Figure 2 Survey results on the perceived importance of the trust drivers.

CAN WE ACCELERATE?

- Urban logistics is the segment with most experience in collaborative logistics
  - Large amount of good and bad practices, e.g. urban consolidation centers
  - Large amount of research on collaborative logistics in cities
  - Biggest willingness to test and implement collaborative logistic activities by the market

  ⇒ BUILD UPON THE EXISTING EXPERIENCE (academic, public authorities and industrial)

  ⇒ START WITH ACTORS INDICATING THE NECESSARY WILLINGNESS (e.g. use urban logistic networks like Green Deal)

CAN WE ACCELERATE?

- Trends in urban logistics in favour of PI
  - Zero-emission zones => charging infrastructure nodes, consolidation, cargo-bikes
  - Increasing access restrictions and related costs
  - AI in logistics
  - Proximity logistics – 15 minute city

⇒ INTEGRATE PHYSICAL INTERNET DEVELOPMENT WITH TRENDS

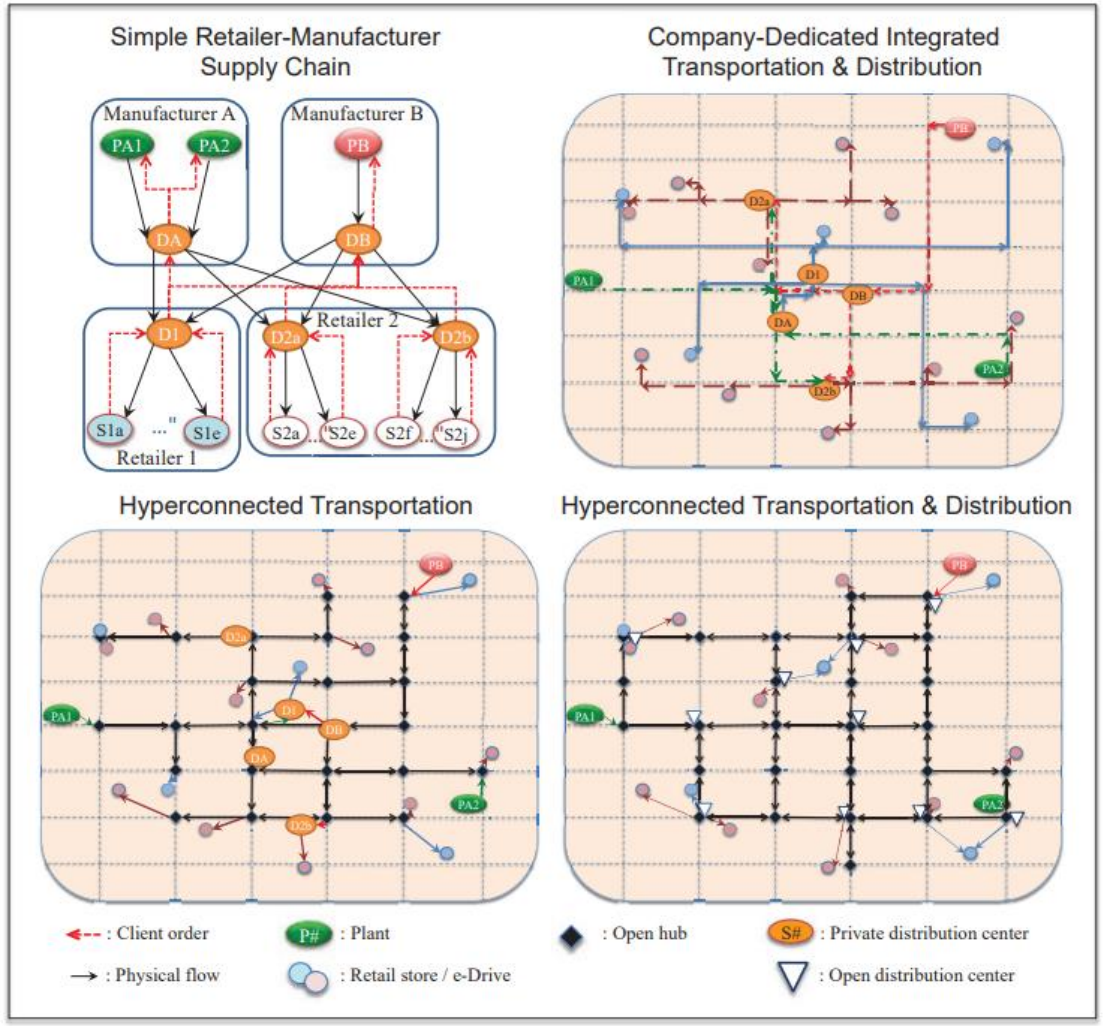
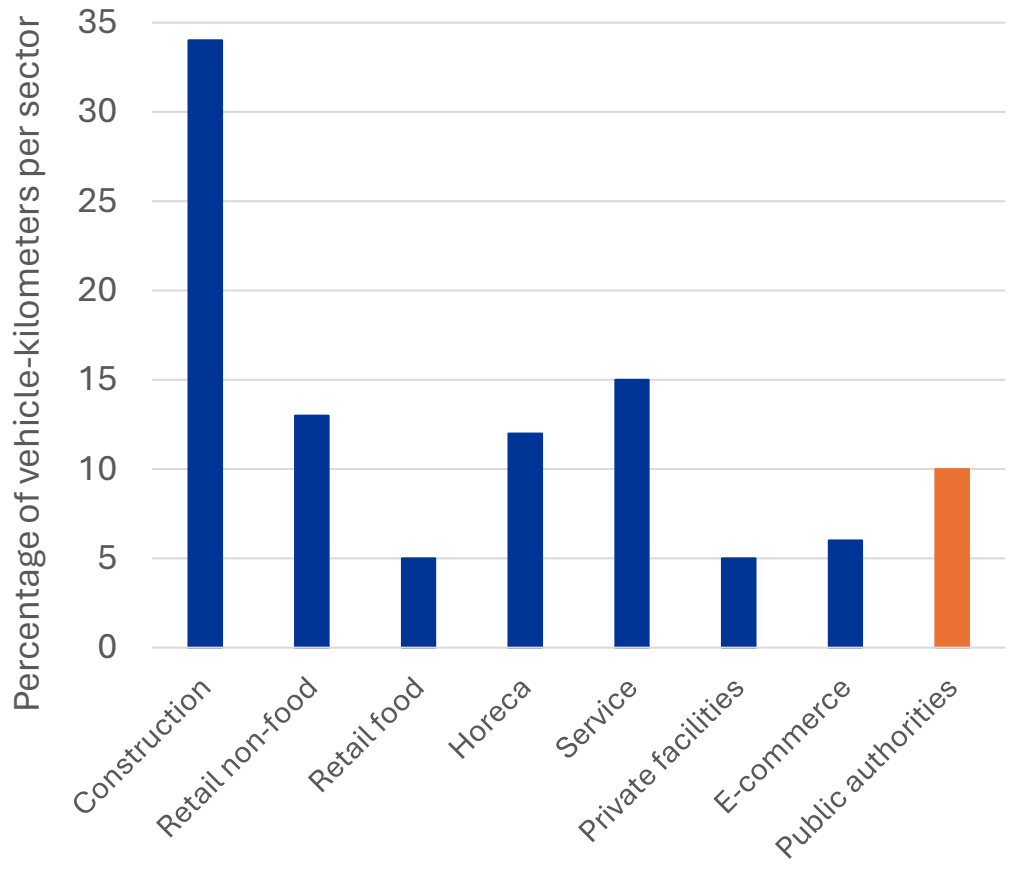


Fig. 4. Contrasting company-dedicated integrated logistics and hyperconnected logistics for retail supply chains (Adapted from Hakimi *et al.*, 2012)

Crainic & Montreuil, 2015

CAN WE ACCELERATE?



Mommens et al., 2023

- Public authorities are part of it
  - 10% of vehicle-kilometers
  - Planner, manager of nodes
  - No problem with ‘altruism’, ‘adoption’ and ‘transparency’ in trust framework

=> RESEARCH POSSIBLE INTEGRATION INTO BUSINESS MODELS AND GOVERNANCE

LET'S COLLABORATE

POLIS CITIES AND REGIONS FOR TRANSPORT INNOVATION | alice Alliance for Logistics Innovation through Collaboration in Europe

Get in touch with us: VUB mobilise analysing sustainability, mobilising people

Koen.mommens@vub.be

https://mobilise.research.vub.be/

Urban Logistics Innovation Day 2024

Session I - Let's hear from policy makers – EU, national level and cities

Paola CHIARINI
Policy Officer at DG MOVE - European Commission

Anna PATYNEN
Special Adviser, Finnish Transport and Communications Agency (Traficom)

Willem VAN HEIJNINGEM
Strategicst at department of Mobility & Public Space, City of Amsterdam

Stefan VAN DORP
Policy advisor for freight transport, City of Utrecht

Facilitated by Raffaele VERGNANI, Urban Freight Cluster Lead at POLIS

The TEN-T urban nodes and EC's priorities in research

Urban Logistics Innovation Day - Physical Internet, Digitalisation & Sustainable Urban Logistics | 4th June 2024

Paola Chiarini
Unit Innovation and Research
DG Mobility and Transport

New EU Urban Mobility Framework: Zero-emission city freight logistics and last-mile delivery

City logistics **essential** to the functioning of urban economies. Increase in last-mile deliveries likely to persist.

Collaboration between local authorities and private stakeholders needed to share knowledge on sustainable **urban logistics management and planning**.

Reinforced **role of urban nodes** in the revision of the TEN-T Regulation, better integration of cities as logistics hubs.

Significantly increase the **roll-out of zero emission vans** used for urban logistics.

Accelerate **developing and deploying sustainable solutions** such as cargo bikes, new distribution models, dynamic routing, and a **better multimodal connected use** of urban rail and inland waterways. **Optimise the use of vehicles and infrastructure** and reduce the need for empty and unnecessary runs.

More work is necessary at EU level on assessing the need for more urban freight **data collection and sharing**.

Expert Group on Urban Mobility (EGUM): sub-group on urban logistics

EGUM: to assist the Commission in **implementing** the new EU urban mobility framework

EGUM sub-group on Urban Logistics

1 Sustainable urban logistics planning

How to ensure that sustainable urban logistics planning (e.g. SULPs), supported by specific KPIs, is fully integrated in the SUMP framework, and linked to long-haul freight transport;

2 Data sharing for zero emission urban logistics

How to support dialogue and voluntary data sharing between all types of stakeholders (public and private) to make urban freight transport more efficient, sustainable and competitive; how to define a data collection process and evaluation approach;

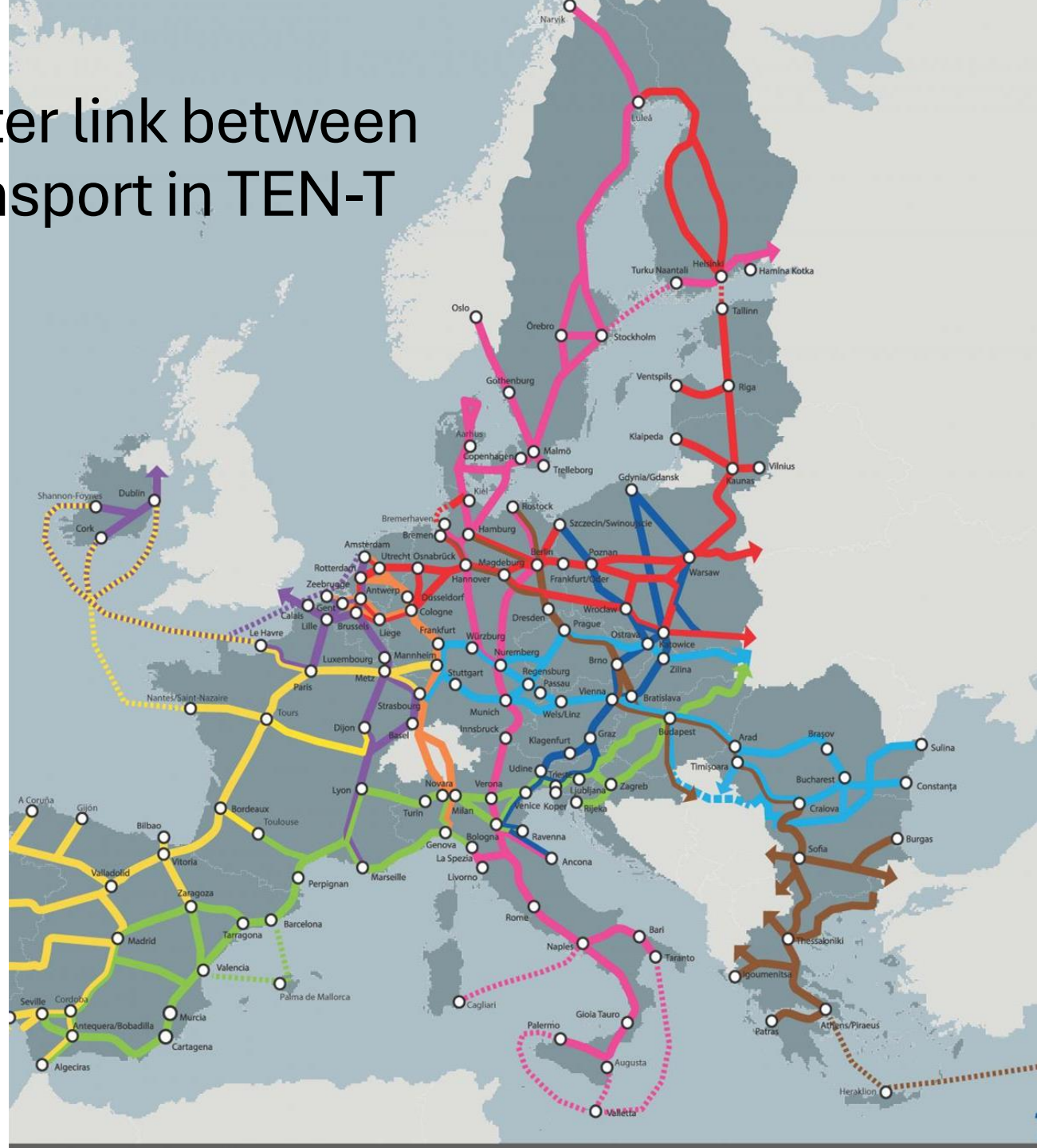
3 Accelerated deployment of innovative sustainable solutions

How to advance deployment of zero emission vehicles and enabling infrastructure (including urban rail and inland waterways), and optimise their use; how to accelerate the deployment of innovative, fair and sustainable (zero-emission, less congestion) solutions.

Revised TEN-T Regulation: Better link between long-haul and urban freight transport in TEN-T

- Better **integrating the urban dimension** and **last mile connectivity** into the TEN-T network
- **Avoiding that urban areas become bottlenecks** of strategic transport corridors

- Improved integration of wider network of **432 urban nodes**
- Specific provisions / **requirements** for urban nodes



What is an urban node?

Urban node criteria: **more than 100,000 inhabitants** or main node of a NUTS 2 region in case no city above 100,000 inhabitants

Article 3 – definition of an urban node:

- 'urban node' means an urban area where elements of the transport infrastructure of the trans-European transport network for passengers and freight,
- such as ports including passenger terminals, airports, railway stations, bus terminals, multimodal freight terminals,
- located in and around the urban area,
- are connected with other elements of that infrastructure and
- with the infrastructure for regional and local traffic,
- including infrastructure for active modes;

Annex II - List of 432 urban nodes

Some urban nodes requirements (1/2)

Sustainable Urban Mobility Planning

by 31 December 2027

Adoption and monitoring of a **sustainable urban mobility plan (SUMP)** for each urban node

- long-term, integrated freight and passenger mobility plan for the **entire functional urban area**
- to integrate the different modes of transport and shift towards sustainable mobility
- to promote efficient zero-emission mobility including sustainable and **zero-emission urban logistics**

- Local authorities shall make all effort to ensure that SUMPs are in line with the guidelines in **Annex V**.

SUMP support framework

Member States shall support urban nodes to adopt and implement their SUMP:

- designate a **national SUMP contact point** and
- establish a **national SUMP programme**

Some urban nodes requirements (2/2)

Multimodal freight transport

by 31 December 2030

For freight transport:

- **sustainable, seamless and safe interconnection** between rail, road, and, as appropriate, inland waterway, air and maritime infrastructure as well as appropriate connections with logistics platforms and facilities;

by 31 December 2040

- Subject to a socio-economic cost-benefit analysis,
- development of at least one **multimodal freight terminal** if such a terminal does not already exist,
- within or in the vicinity of the urban node,
- allowing for sufficient transhipment capacity within or in the vicinity of the urban node.
- One multimodal freight terminal may serve several urban nodes

Digitalising freight transport and logistics

European Mobility Data Space (EMDS)

- To facilitate access, pooling and sharing of data from existing and future transport and mobility data sources, taking into account existing legislation and initiatives
- Communication **Creation of a common European mobility data space** published in Nov 2023
- EU co-funded deployEMDS project ongoing: data sharing use-cases, including urban logistics

Urban Vehicle Access Regulations (UVARs)

- Aim: Seamless UVARs & improved Road User Information, Digitalisation & Data creation
- EU Expert Group on Urban Mobility: Recommendations 05/2024
  - defining new urban logistics schemes,
  - consultation with social partners in commercial road transport,
  - coordination of the restrictions between different UVAR's

Digital Transport and Logistics Forum (DTLF)

R&I on urban mobility and logistics in Horizon Europe

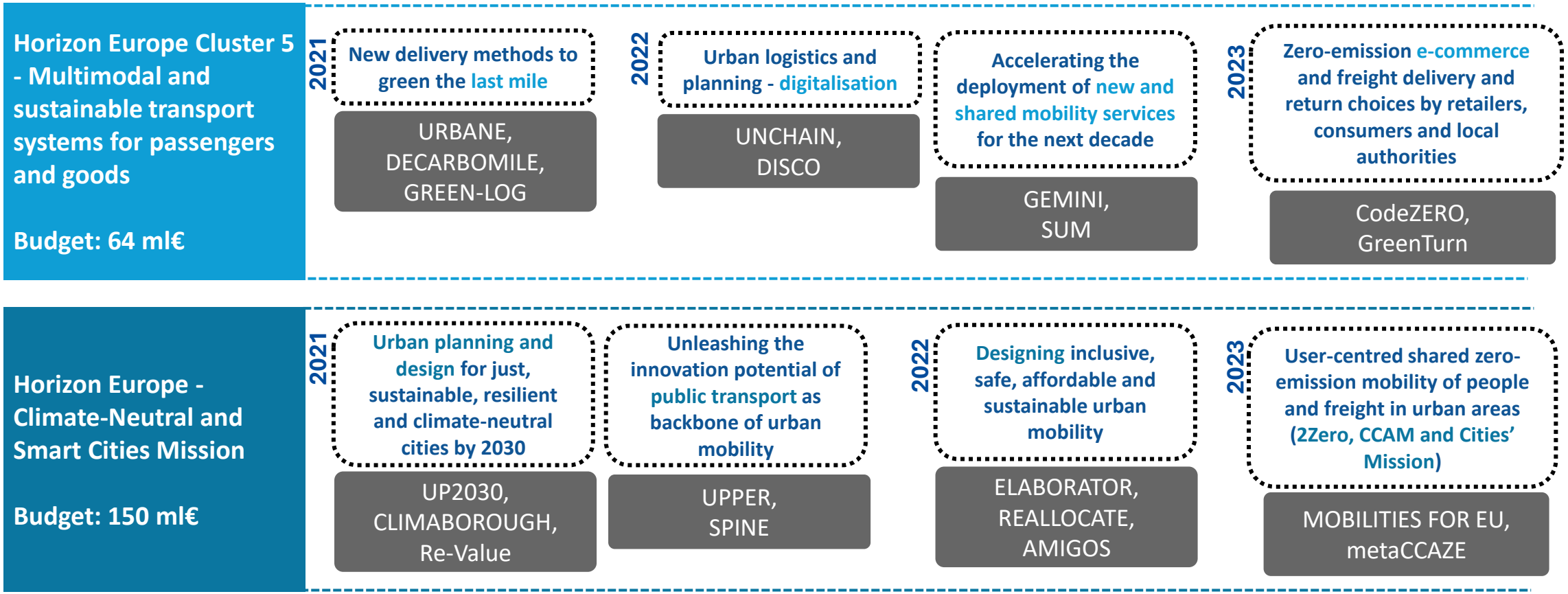
Cluster 5 - Multimodal and sustainable transport systems for passengers and goods

- ✓ **Sustainable** and **smart** long-haul and regional (including links to urban) freight transport and logistics, through increased **efficiency** and improved **interconnectivity**.
- ✓ **Reduced external costs** (e.g. congestion, traffic jams, emissions, air and noise pollution, road collisions), optimised system-wide network efficiency and resilience.

Climate neutral and smart cities Mission

- ✓ Deliver at least **100 Climate-neutral and smart cities by 2030**
- ✓ Ensure that these cities act as **experimentation and innovation hubs** to pull all European cities in a position to become climate-neutral **by 2050**

R&I projects on urban mobility and logistics



Mission for Climate-Neutral and Smart Cities work programme 2024

2024	Funding scheme	Expected contribution per project EUR M	Expected projects to be funded	Budget in WP EUR M
HORIZON-MISS-2024-CIT-01-01: Rethinking urban spaces towards climate neutrality	IA	15	3	45.00
HORIZON-MISS-2024-CIT-01-02: Zero-pollution cities	RIA	5.00	4	20.00
HORIZON-MHORIZON-MISS-2024-CIT-01-03: Mobility Management Plans and Behavioural Change	CSA	5.00	1	5.00
HORIZON-MISS-2024-CIT-01-04: Integrated peri-urban areas in the transition towards climate neutrality	IA	9.00	3	28.00
HORIZON-MISS-2024-CIT-02-01: Supporting national, regional and local authorities across Europe to prepare for the transition towards climate neutrality within cities	CSA	3.00	1	3.00

Thank you

Paola Chiarini

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European Commission

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TRAFICOM
Finnish Transport and Communications Agency

Current Policies from National Authority Perspective Related to Urban Logistics

Urban Logistics Innovation Day
4th June 2024, Brussels

Anna Pätynen, Special Advisor (Transport System)
The Finnish Transport and Communication Agency

National-level policies related to urban logistics in Finland

- Logistics Digitalisation Strategy (10/2020 Ministry of Transport and Communications)
- Government resolution on the Logistics Digitalisation Strategy (2/2021) - *currently being updated*
- National Transport System Plan 2021-2032 (10/2020 Ministry of Transport and Communications) – *currently being updated for years 2025-2036*
- MAL - Agreements concerning land use, housing and transport 2020–2031 (concluded by the State of Finland with the seven largest urban regions) - *currently being updated*
- The National Urban Strategy 2020–2030 (9/2020 Ministry of Finance in collaboration with other ministries)
- Medium-term Climate Change Policy Plan: Towards a carbon-neutral society (7/2022 Ministry of the Environment) – *currently being updated*
- Programme to improve the distribution infrastructure for new fuels in road transport in Finland by 2035 (3/2023 Ministry of Transport and Communications) – *currently being updated and shall cover all transport modes*

Implementation of EU and national regulation - coordination and cooperation with stakeholders (public and private sector)

e.g. AFIR, eFTI, TEN-T etc.

Logistics Digitalisation Strategy

Infrastructure, Logistics and Data as a functional package - moving towards efficient and sustainable logistics by means of digitalisation and achieving efficiency, safety and sustainability benefits

Urban logistics in the action plan includes optimized fleets and capacity

- **Sustainable procurement and investment** by increasing the responsibility and rights of clients or through legislation
- **Improved access to data** will enhance freight transport optimization and delivery consolidation
- **Collaboration** between cities and businesses to streamline first and last-mile deliveries (smaller delivery vehicles and developing standardized loading units)
- **Quiet electric vehicles** for short-distance deliveries will allow for less disruptive day and night deliveries, with real-time data on charging locations and improved **infrastructure for electric vehicle charging** at loading zones and parking areas for loading.
- **Data sharing solution development** optimize transport, provides better opportunities for freight consolidation through local logistics centers and joint-use freight exchanges
- **Better opportunities** for freight consolidation **for businesses** and **more flexible delivery options for consumers** for online and grocery deliveries, promoting a diverse and market-based range of services

Link: Appendix in English

National Transport System Plan and National Urban Strategy

National Transport System Plan's actions on urban logistics relate e.g. to

- urban logistics development through legislation and targeted research and innovation funding and cooperation between central and local authorities
- promotion of low-emission urban logistics through land use, construction, and public procurement solutions
- data-sharing platforms and sharing principles and roles
- Infrastructure: roads, streets and electric vehicle charging, also digital infrastructure

National Urban Strategy and urban logistics

- cities serve as natural platforms for expertise, research & innovation, and business
- public service production and collaboration structures support skills development and employment
- people and goods move smoothly and sustainably
- a full-scale digital and data leap is possible with wellfunctioning communications connections and interfaces
- accessibility between and within cities is a key factor to nation-wide success

TRAFICOM

Links in English: Transport System Plan link and Urban Strategy link

Medium-term Climate Change Policy Plan and Distribution Infrastructure for New Fuels in Road Transport

Medium-term Climate Change Policy Plan

The current measures are not sufficient to attain emission reduction objectives. Actions needed to close the gap

- First phase
  - Replacing fossil fuels with alternative transport fuels
  - Renewal of the vehicle fleet
  - Improving the efficiency of the transport system

Distribution infrastructure for new fuels in Road Transport relates to

- subsidies for the construction of electricity, hydrogen and methane distribution infrastructure
- subsidies for the acquisition of heavy equipment

Links in English: Medium-term Climate Change Policy Plan link

Summary

- At the national level in Finland, urban logistics is promoted as part of the digitalisation of logistics
- Urban logistics is part of the national transport system plan. Urban logistics themes are also included in agreements concerning land use, housing and transport between the state and regions.
- National coordination and cooperation is relevant with stakeholders (both public and private sector)

Thank you!

TRAFICOM
Finnish Transport and Communications Agency

Context Amsterdam and logistics in cities

- Challenges Amsterdam: Growth, Maintenance, Social, Sustainable

- Public Space: green, utilities, meet and stay, peace, mobility, logistics, commercial activity, parking

- Qualities: accessibility, livability, safety, inclusive, sustainability, healthy, social and economical vitality

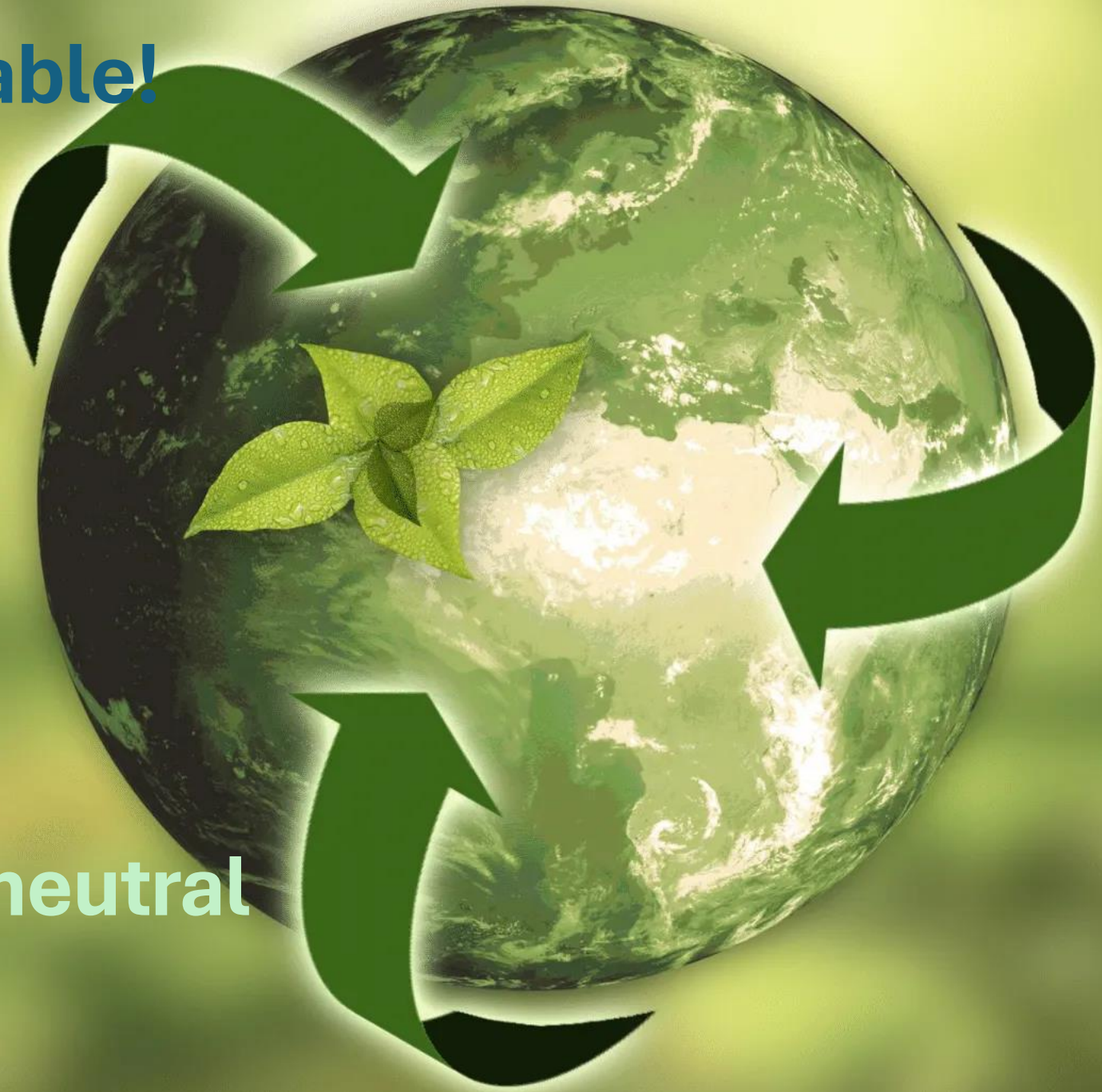
- Scar **cities: space, infrastructure**, means, capacity, resources/material, energy, time

Amsterdam logistics strategy and implementation

- Collaboration “Logistiek020”
- Clear ambitions, rules and measures
- Understand, learn and use data

- Zero emission zone + charging
- Transport over water
- Hubs
- Optimizing instruments
- Make plans for different area’s
- Research

Sustainable!



Climate neutral
Circular

Gemeente
Amsterdam

R-Innovation

What aRe connections between logistics and circular economy?

Urban Logistic Innovation Day, Brussels, June 4 2024, Willem van Heijningen

Sustainable

TRAVEL LESS
Reduce the number of trips

Trias Mobilica

TRAVEL DIFFERENTLY
Change to more sustainable modes of travel

TRAVEL EFFICIENTLY
Improve the sustainability of trips

Course towards a zero-emission Amsterdam

2019 ✓

Adoption of Clean Air Action Plan

2020 ✓

- Introduction of environmental zone inside of A10 ring road: emission class 4 passenger cars
- Restriction of environmental zone for vans to emission class 4
- Expansion of environmental zones for all modes of transport (except scooters and mopeds)

2022 ✓

Restriction of environmental zone for trucks and buses to emission class 6

As of 2025

Restriction of current environmental zone for passenger cars to emission class 5 (diesel) and higher

As of 2025

Zero-emission central area for pleasure craft. All inland waterways zero-emission for passenger craft and water transport.

As of 2025

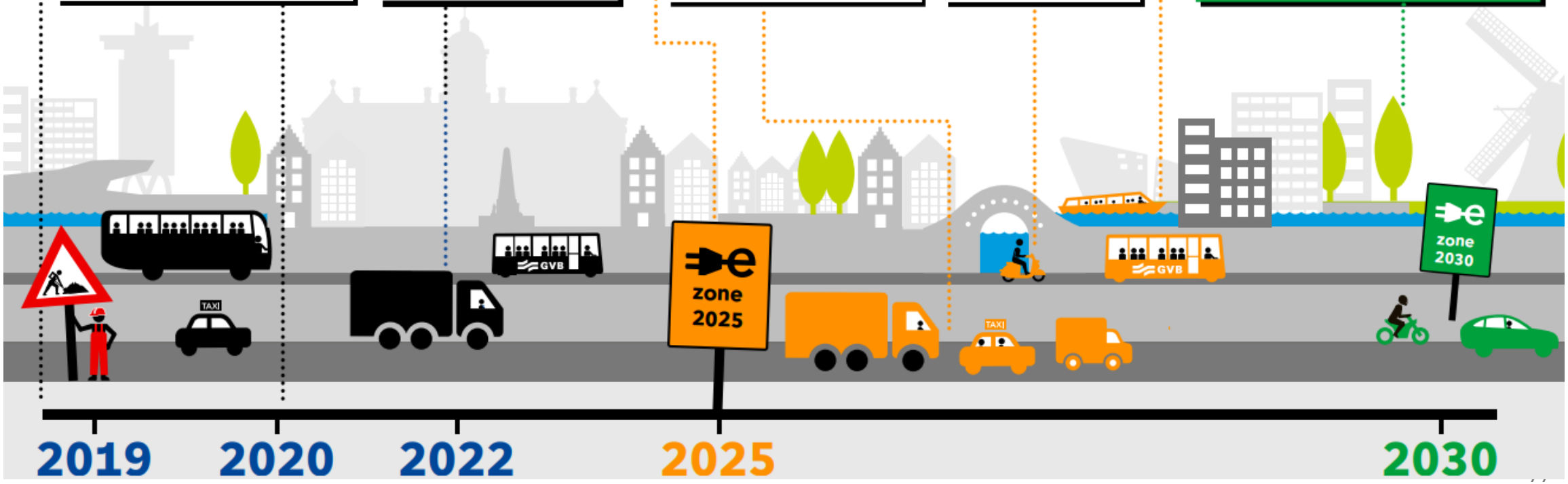
Zero-emission zone for vans, trucks and taxis inside of A10 ring road

As of 2025

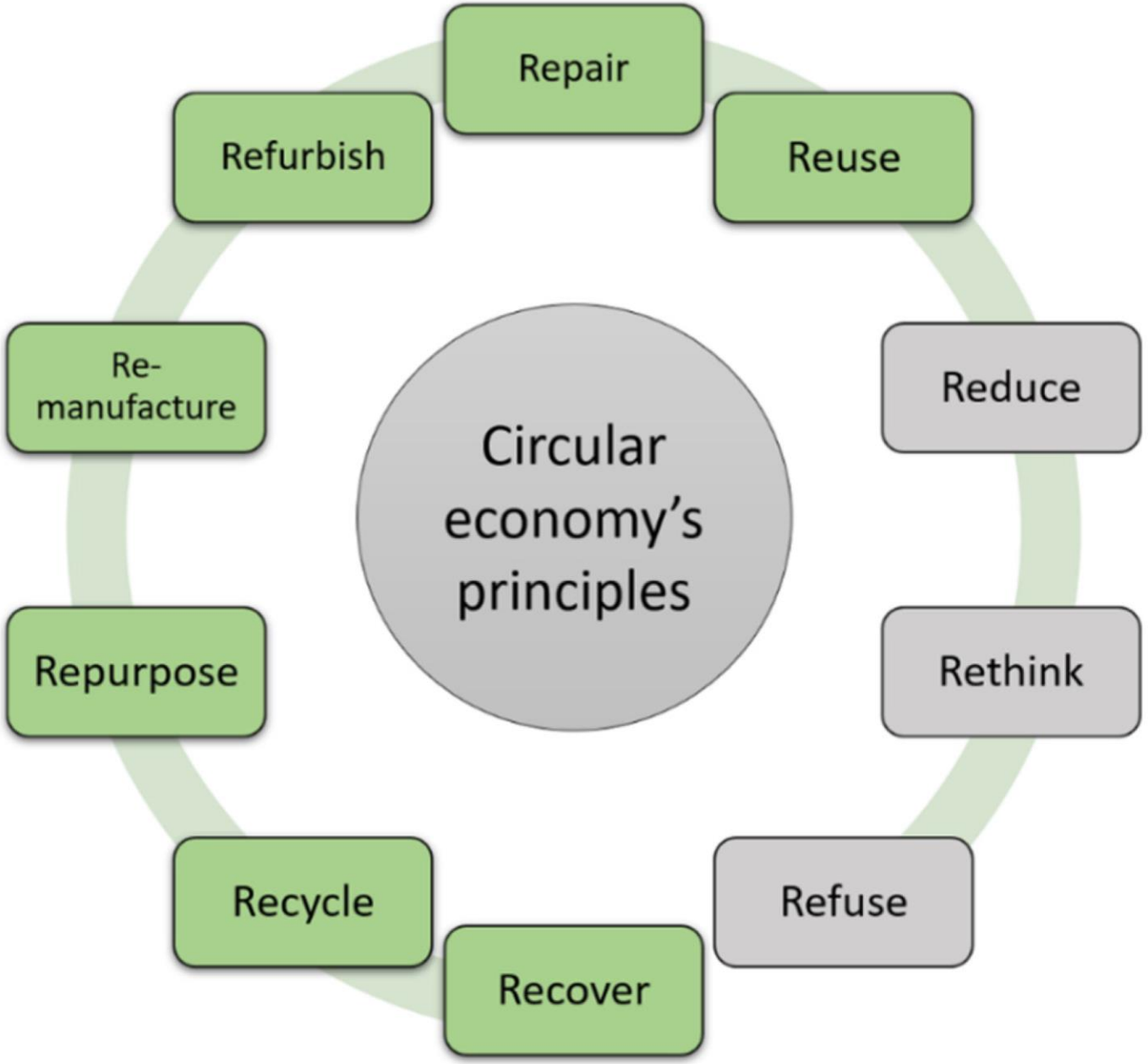
Zero-emission zone for scooters and mopeds within built-up area

Ambition for 2030

Zero-emission for all traffic in Amsterdam



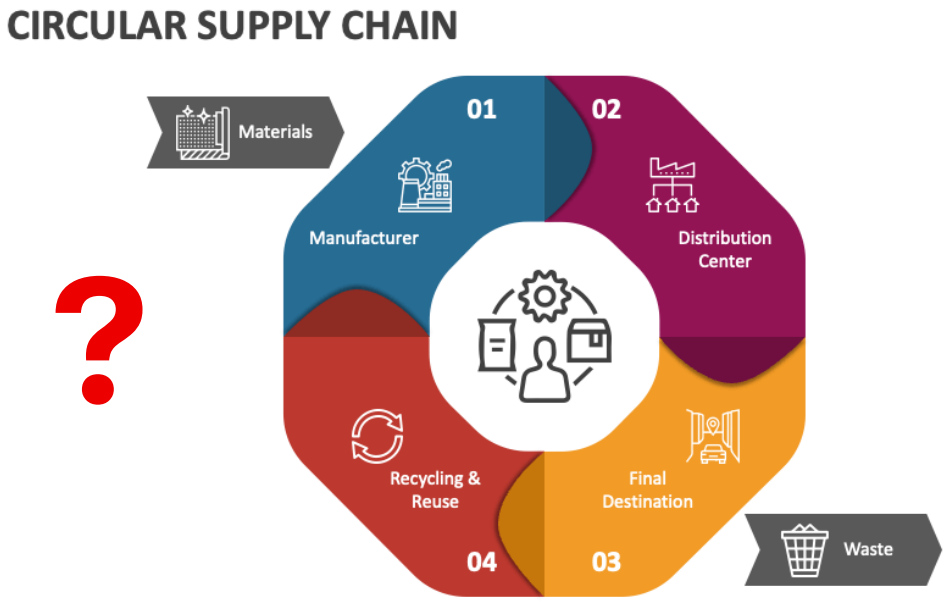
Circular economy principles



Logistics becoming circular:

- Real Estate
- Means of transport: trucks, vans, ships, planes
- Contributing to circular economy: → supply chain/logistic system

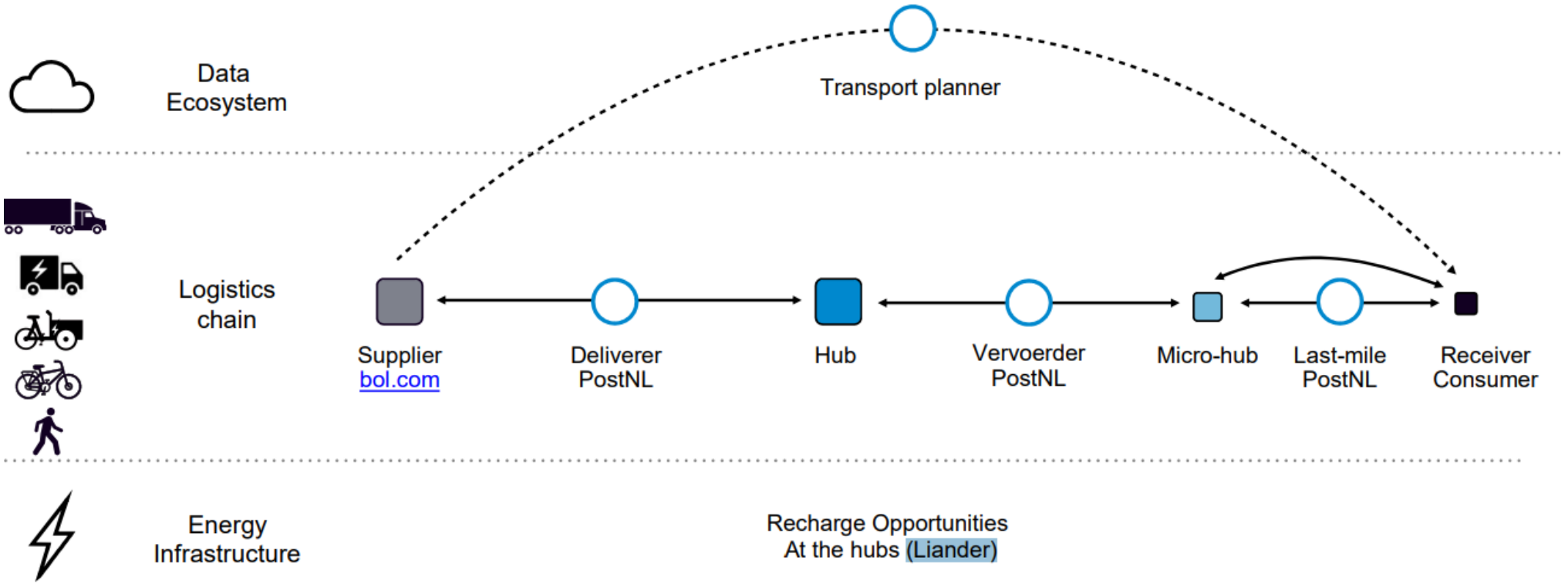
?



Principles Logistics

Logistic Chains

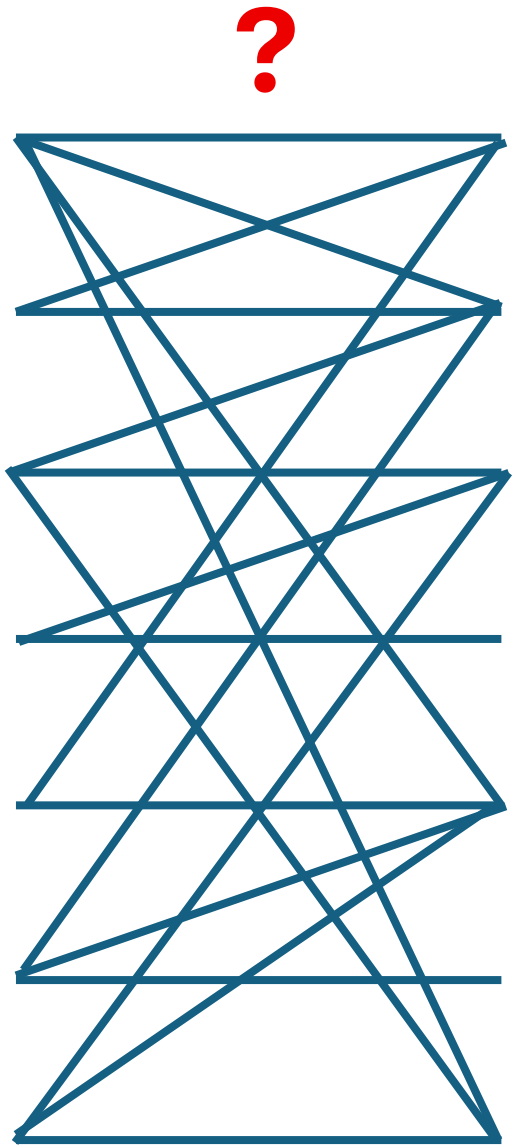
- 7 segments → differendes in requirements of chains
- Fragmented (lots of companies with different historically developped chains



R connections logistics and circular economy

Circular

- Refuse
- Reduce
- Reuse
- Repair/Refurbish
- Repurpose
- Recycle
- Recover



Logistics

- Right product
- Right quantity
- Right condition
- Right place
- Right time
- Right customer
- Right price

Consolidation?

Locally? Regionally?
Nationally, Internationally?

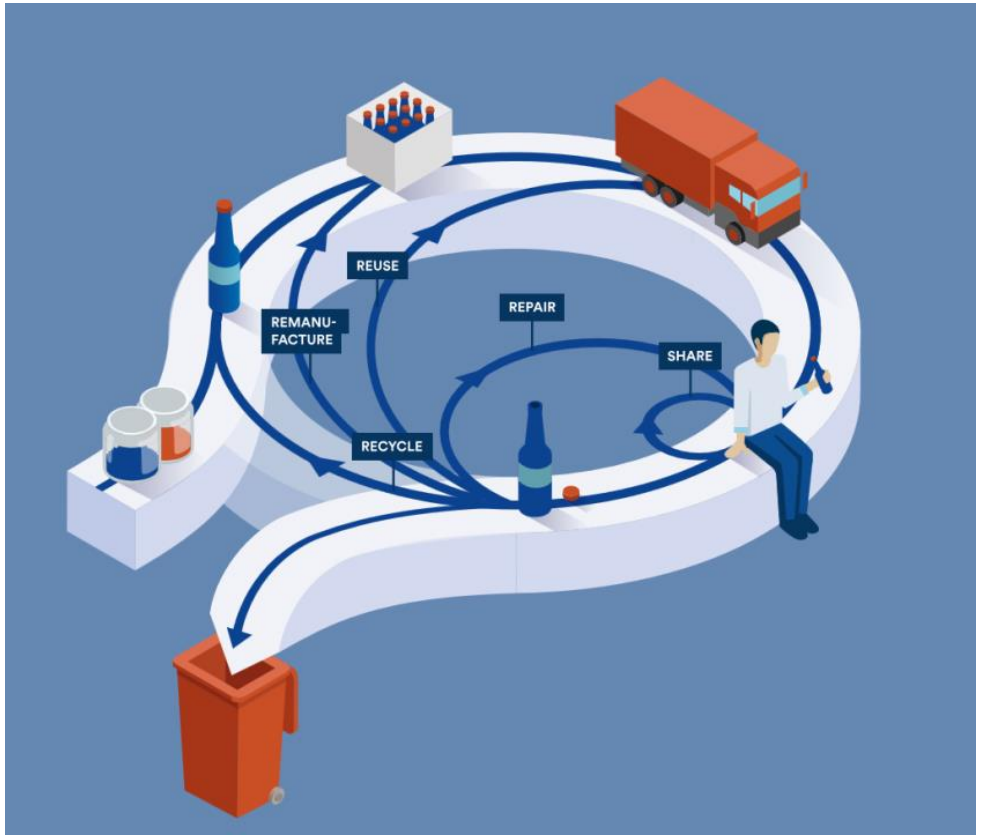
How can we design from holistic view

The chains will become circular and different - different also per segment, item

Connections with

- Amounts and ways of packaging
- Planning (data, digitization, AI)
- Emission free transport and circular means of transport
- Transport infrastructure
- Urban planning
- .....

→ Totally new logistic system: **R-Innovation!**



Locally
Regionally
National
International

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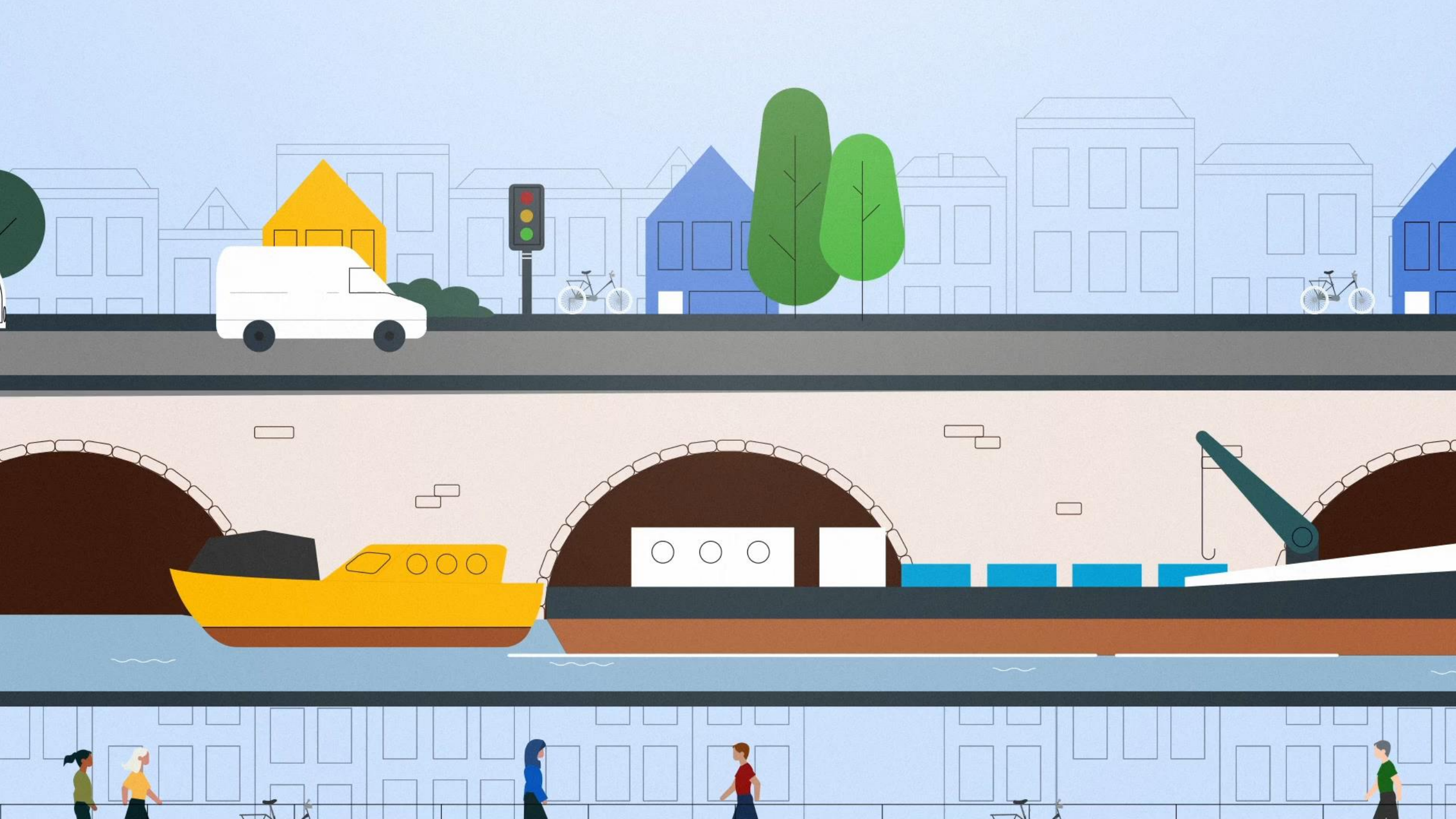
The Road to Futureproof Logistics – where does it lead?

4 June 2024

Stefan van Dorp

Gemeente Utrecht



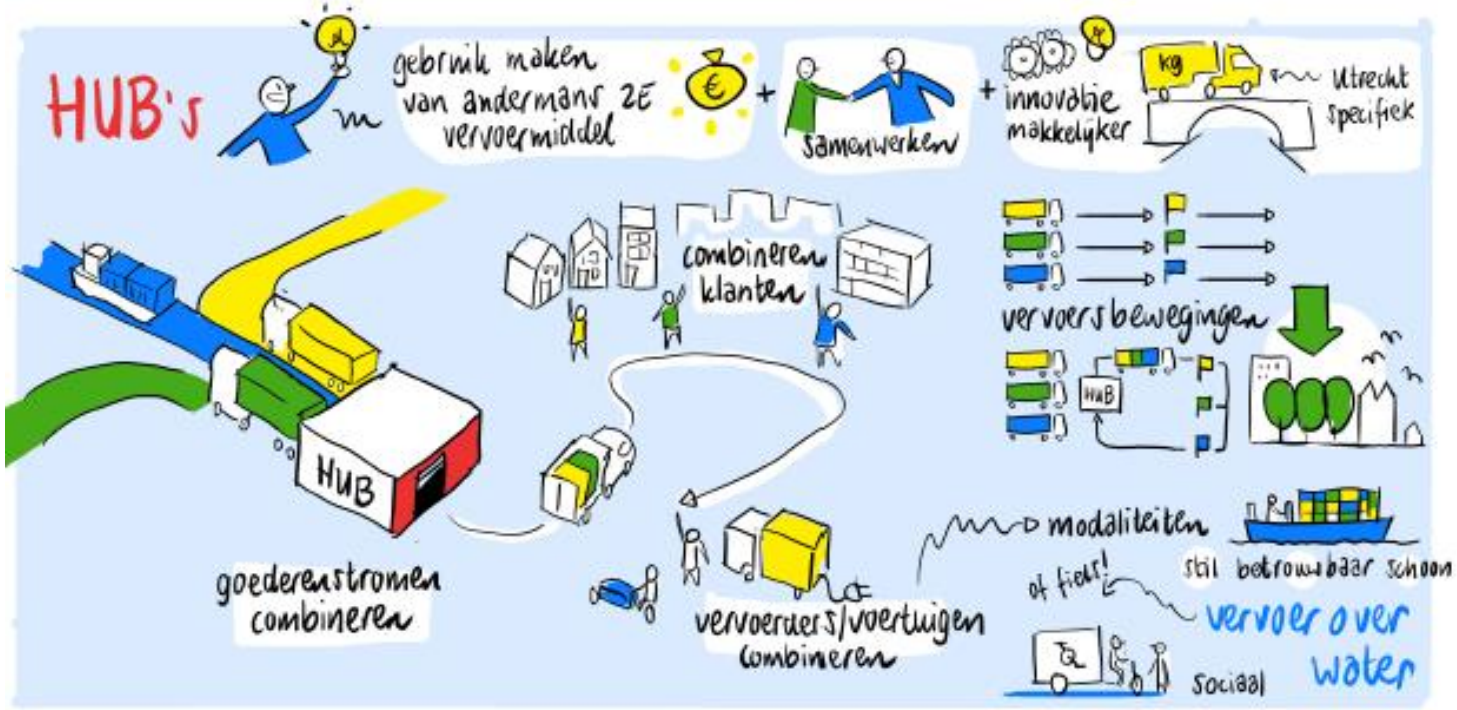
Implementation plan urban logistics 2023-2026

Goal

Making urban logistics more sustainable and efficient (smarter) by ‘taking control’

- 5% less logistics movements in 2026
- 50% less emissions form urban logistics
- 10% modal shoft (boat and bike)

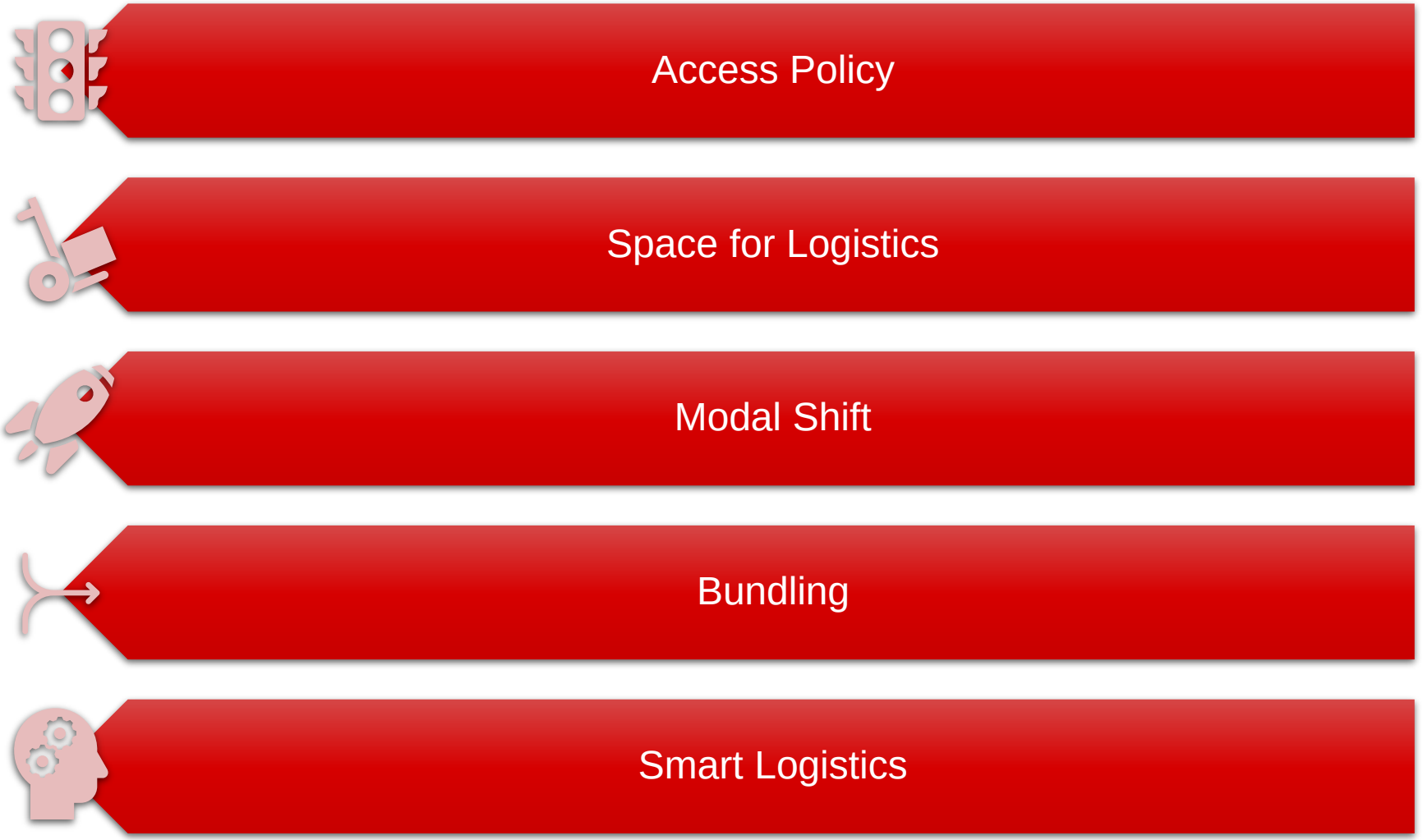
How?



Bron: Logistiek Platform Utrecht, 8 maart 2023

Gemeente Utrecht

Implementation Plan Urban Logistics 2023-2026



Gemeente Utrecht

Access Policy

- Now:
  - already many restrictive measures for the protection of wharf cellars

- Future (2024/2025)
  - Smaller window times for fuel vehicles
  - Increase window times area
  - Impose a ban on heavy traffic (+ 7500 kg)

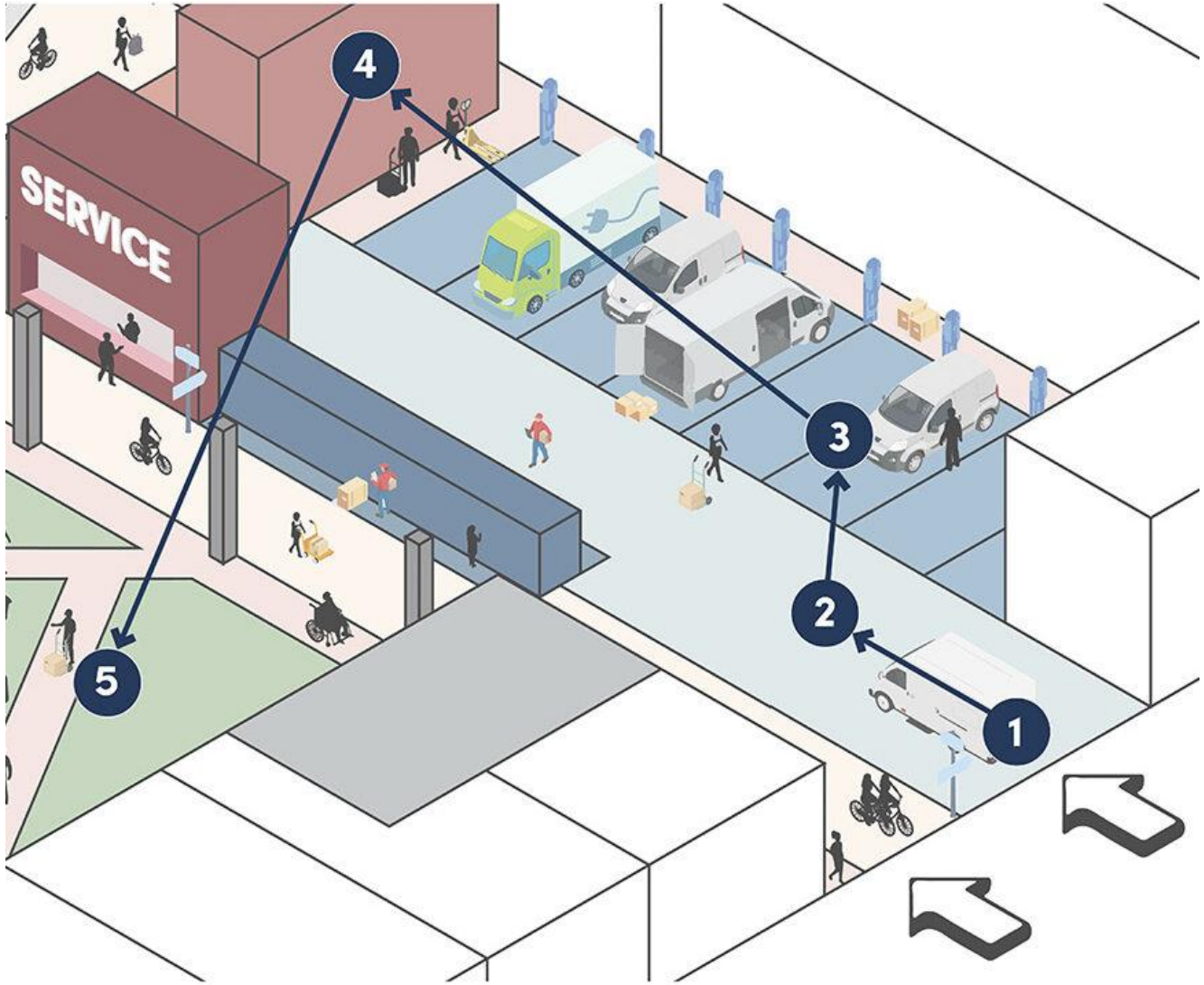
Gemeente Utrecht

Dagen	Tijden	Voorwaarden
Every day	06.00 – 10.00	All vehicles
Every day	06.00 – 12.00	Electric Vehicles
Friday till wednesday	19.00 – 21.00	Electric Vehicles
Thursday	21.00 – 23.00	Electric vehicles

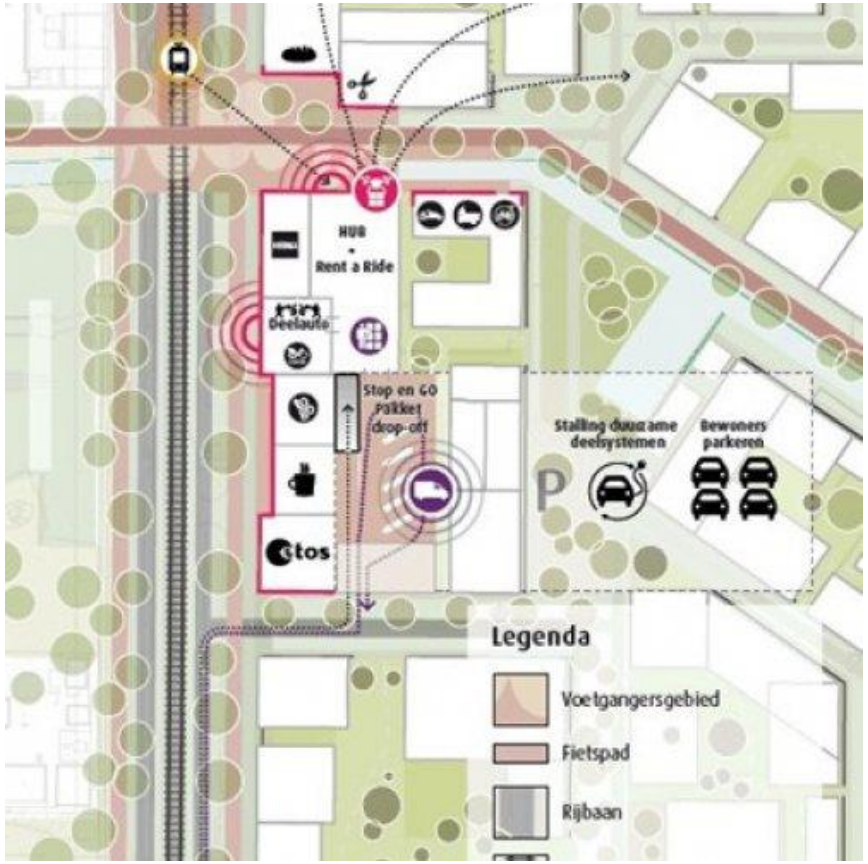
Gemeente Utrecht

Space for Logistics

- Logistics programme requirements
- Quality transport network
- Truck parking



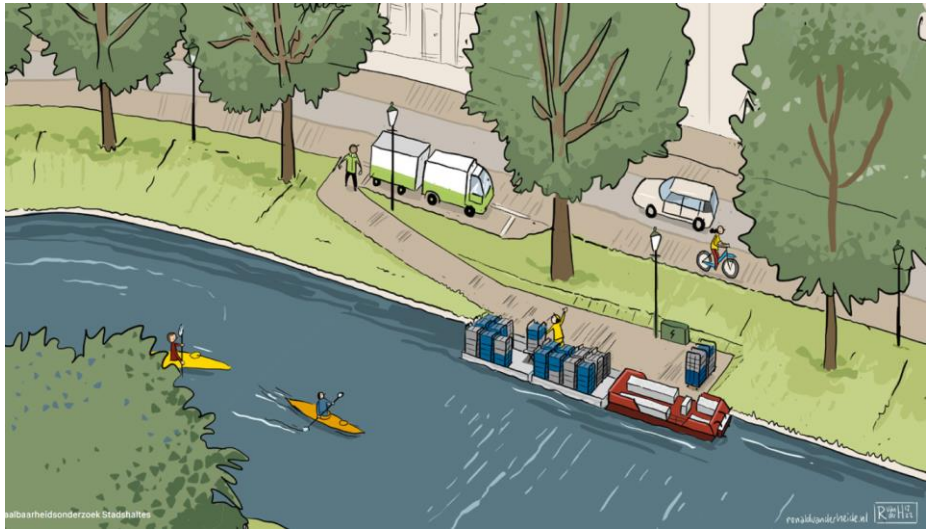
Gemeente Utrecht



Gemeente Utrecht

Modal Shift

- Transport by water
- LEV / Cargobikes

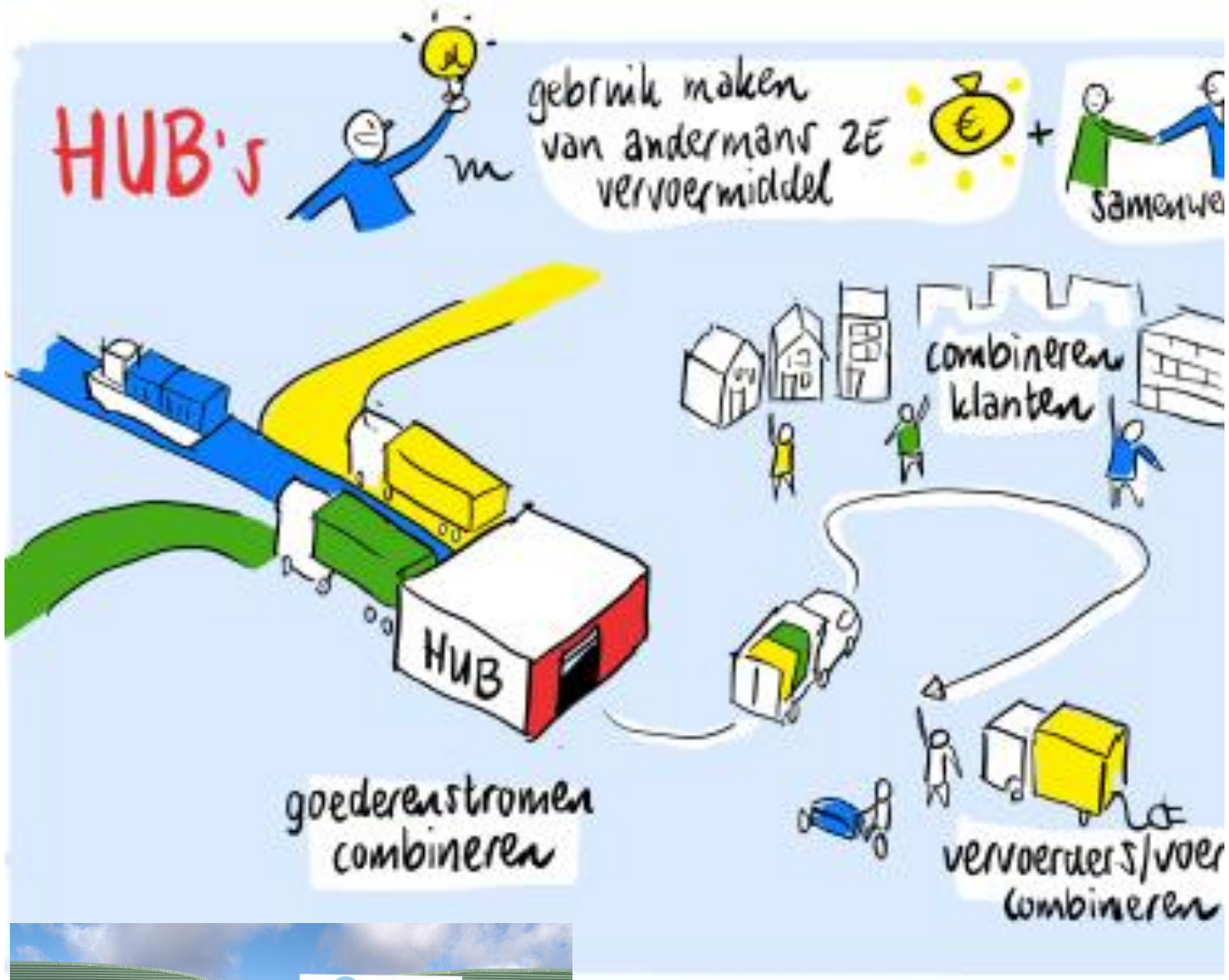


Gemeente Utrecht

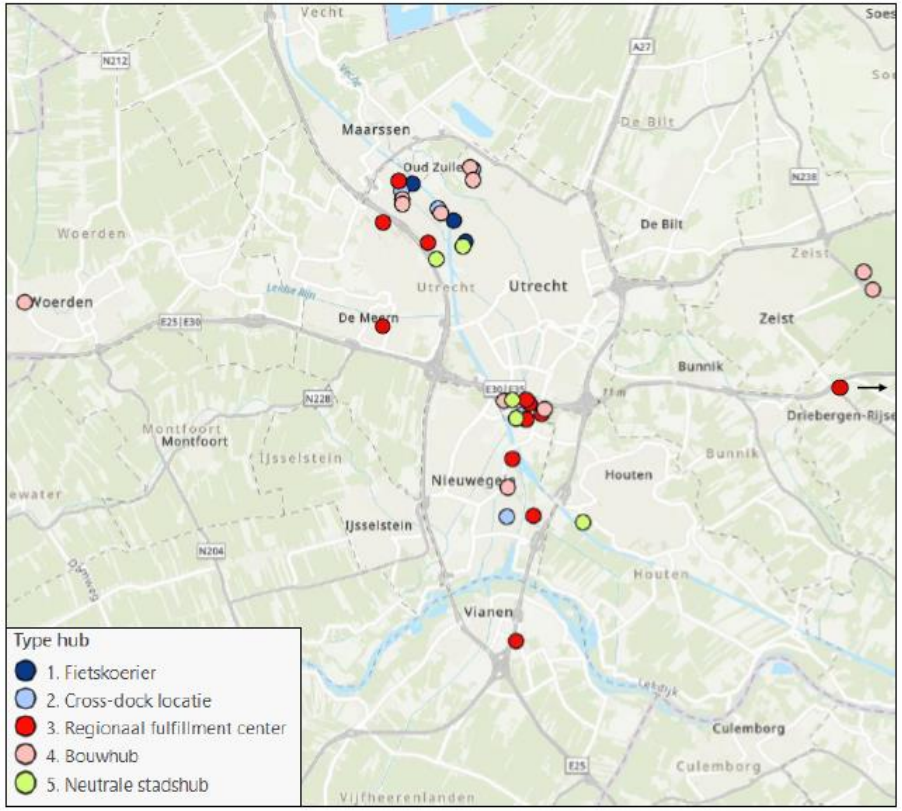
Gemeente Utrecht

Bundling

- Urban Logistics Hubs
- Neighbourhood parcel hubs
- Construction logistics
- Subsidies to promote bundling



Gemeente Utrecht



Bestaande hubs in Utrecht, Bron: BCI (2024). Database Stadsdistributiehubs

Type hub	Ruimtevraag Utrecht 2030		Huidige hubruimte in gebruik	Additionele vraag 2024-2030
	m²	*Hectare*	*Hectare*	*Hectare*
1. Bezorghub fietskoerier	5.400	0,5	0,2	0,4
2. Cross-dock locatie	53.600	5,4	1,1	4,3
3. Stadsregionaal fulfilment center	114.700	11,5	10,3	1,2
4. Bouwhub	58.700	5,9	2,1	3,8
5. Neutrale stadshub	82.000	8,2	2,1	6,1
Totaal	**314.400**	**31,4**	**15,7**	**15,8**

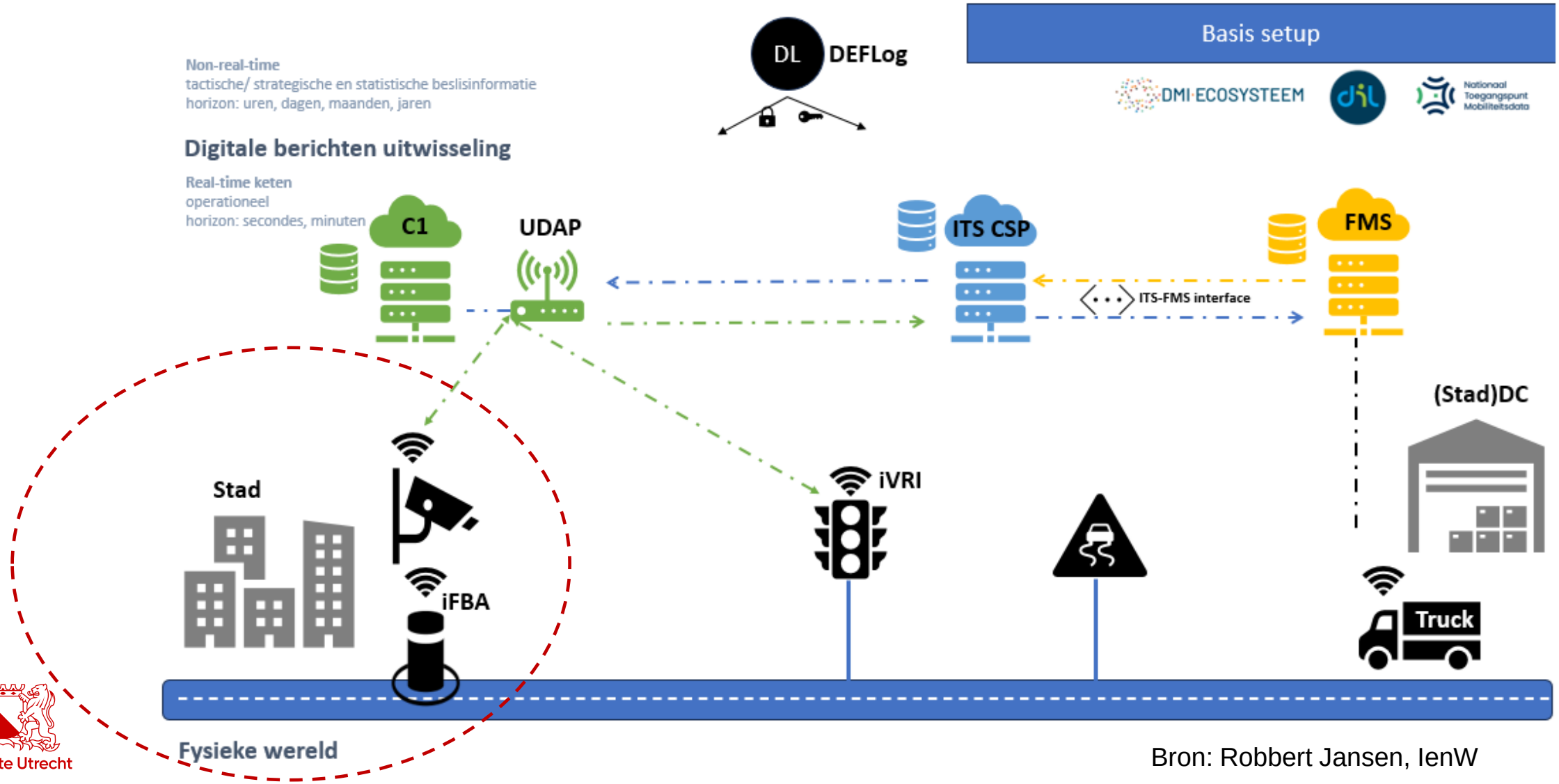
Gemeente Utrecht

Smart Logistics

- Monitoring
- Visibility
- Smart Access
- Smart loading and inloading
- Predictability?

Gemeente Utrecht

Smart Access



Gemeente Utrecht

Bron: Robbert Jansen, IenW

Urban Logistics Innovation Day 2024

Session I - Let's hear from policy makers – EU, national level and cities

Paola CHIARINI
Policy Officer at DG MOVE - European Commission

Anna PATYNEN
Special Adviser, Finnish Transport and Communications Agency (Traficom)

Willem VAN HEIJNINGEM
Strategicst at department of Mobility & Public Space, City of Amsterdam

Stefan VAN DORP
Policy advisor for freight transport, City of Utrecht

Facilitated by Raffaele VERGNANI, Urban Freight Cluster Lead at POLIS

Urban Logistics Innovation Day 2024

Coffee break

See you back at 10:50

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alice | Alliance for Logistics Innovation through Collaboration in Europe

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Urban Logistics Innovation Day 2024

Coffee break

See you back at 10:50

POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

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Urban Logistics Innovation Day 2024

Session II - Let's talk about collaboration: Physical Internet, digitalisation and vision of logistics service providers

Speakers

Ioanna FERGADIOTOU
Head of Athens Lab, INLECOM

Bart VANNIEUWENHUYSE
Partner & Co-Founder, TRIVIZOR

Alfonso MOLINA
Innovation Project Manager, City-Login

Panellists

Pierre FILS
Director Group Sustainability, BPost

Johan LEVEQUE
Director Research and Development, La Poste

Facilitated by Hans SCHURMANS, Proximus & Co-Chair of the Thematic Group on Urban Logistics

Main Challenges

Complexity

Optimisation
Relationships

Evidence

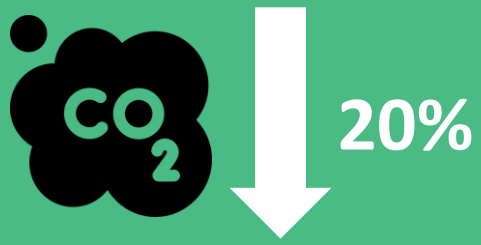
Motivation
Viability

Trust

Data Sharing
Market Position

PI in last-mile logistics

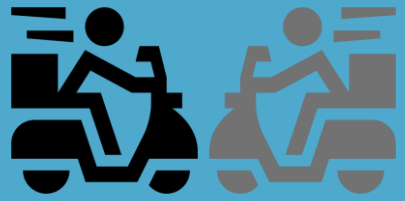
motivation & ambition



Decarbonisation

Successfully demonstrated solutions that optimise last mile deliveries and support public-private partnerships & decision making.

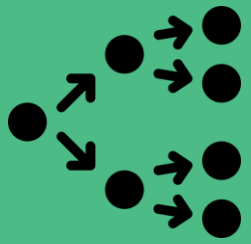
Measures co-design



Solutions

Successfully demonstrated collaborative solutions
Physical Internet principles
Shared use of capacity

Living Labs



Replication & Scale up

4 Lighthouse LLs →
2 Twinning LLs →
6 Follower cities →
City Platform →

Transferability tools & Policy Package

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101069782

Intervention levels to achieve transition

Business, Operations Governance

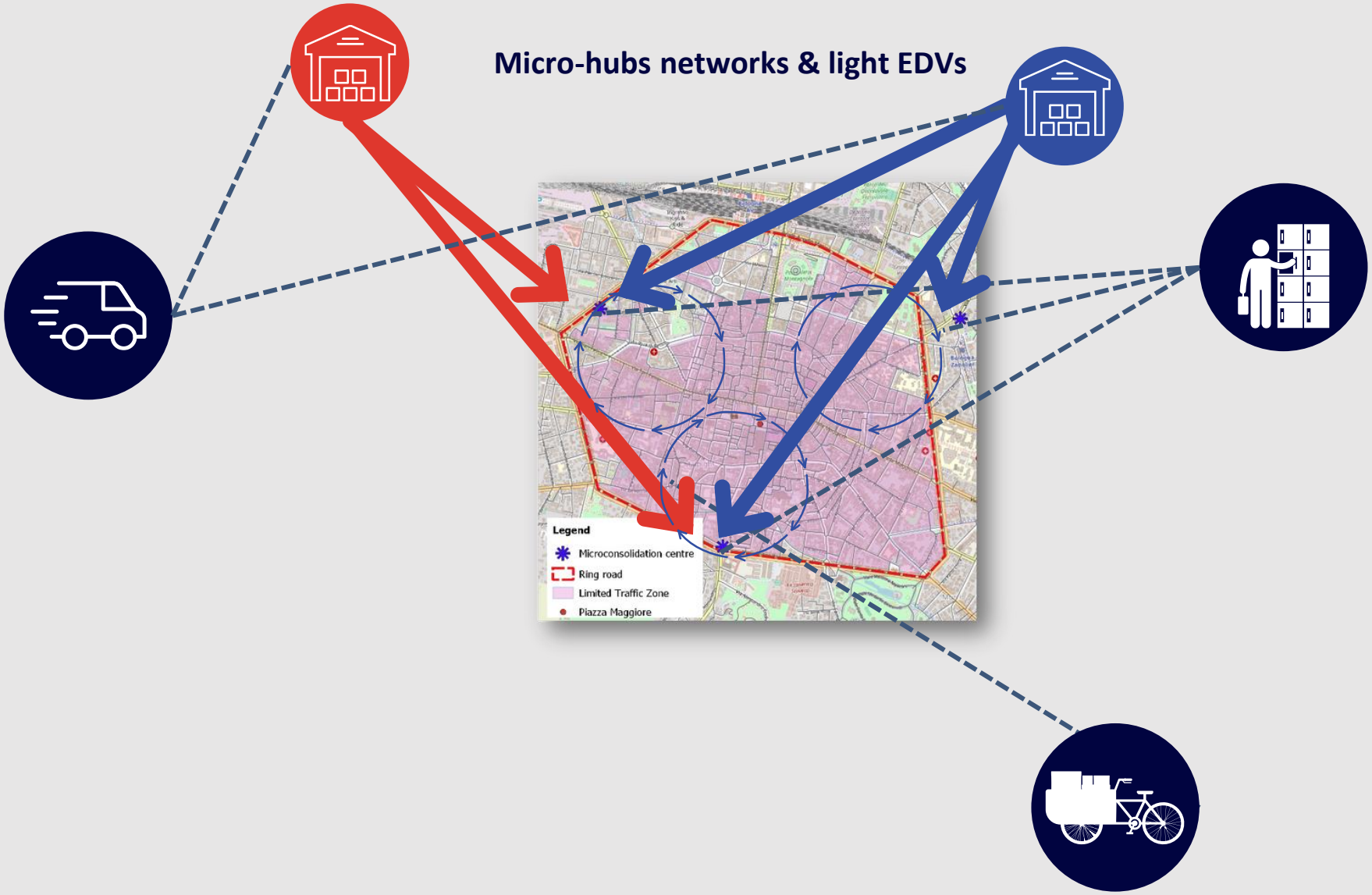
Digital infrastructure Automation & Enablers

Social Innovation

Innovative Vehicles

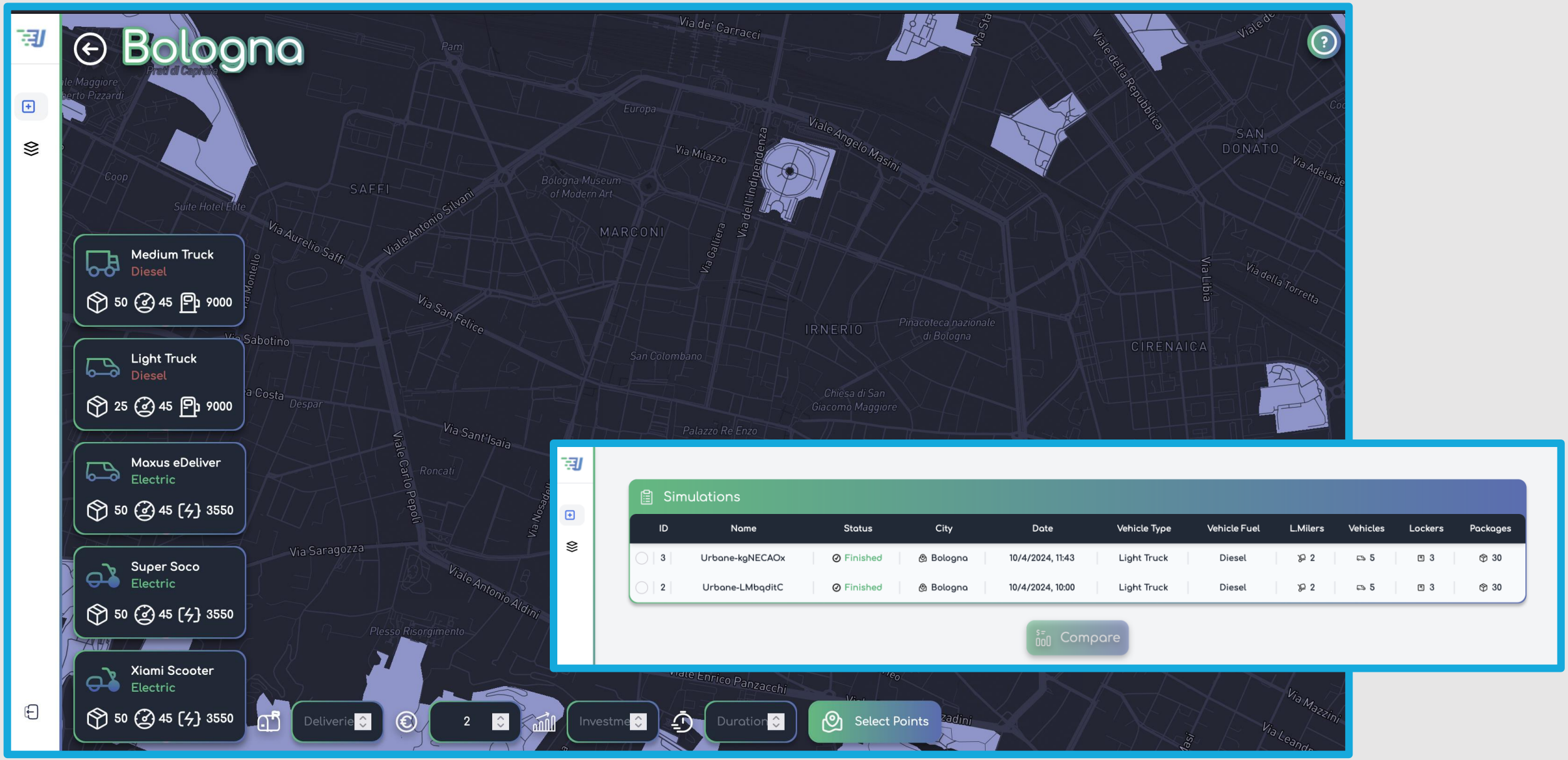
Physical Infrastructure

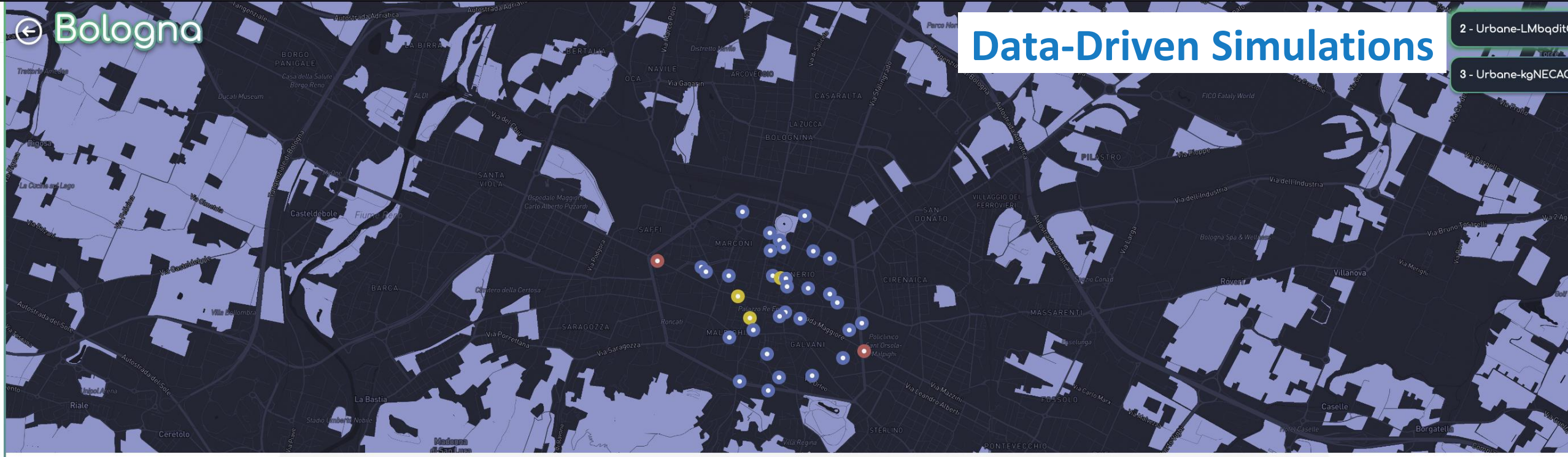
Bologna Living Lab: PI last mile deliveries



Physical Infrastructure

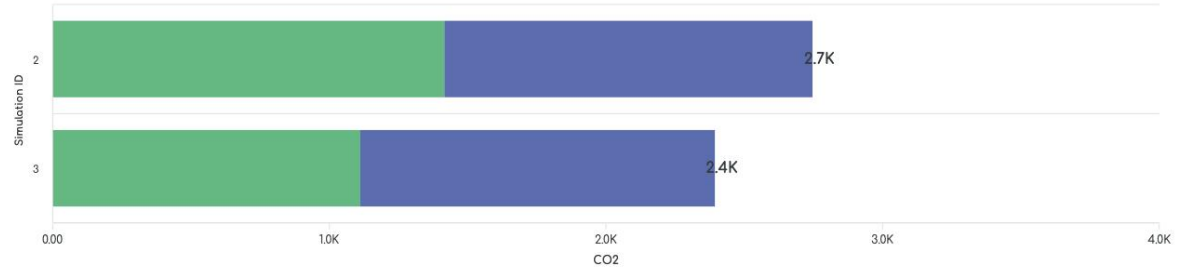
Planning through simulations



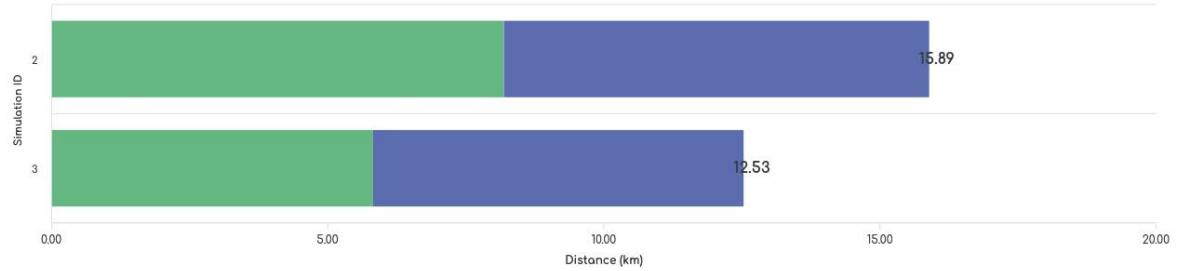


ID: 2	Date	Lockers	Last Milers	Deliveries	Vehicles	Light Truck	Investment	Labor Cost	Projection Years
Name: Urbane-LMbqditC	10/4/2024	3	2	30	5	Diesel	1000	2	3
Scenario: 3	10:04 π.μ.					25 45 9000			

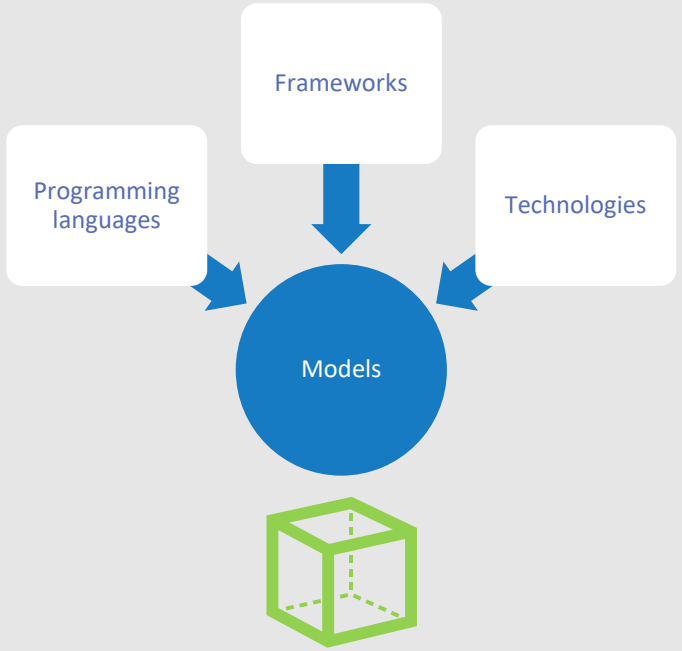
CO2 Emissions



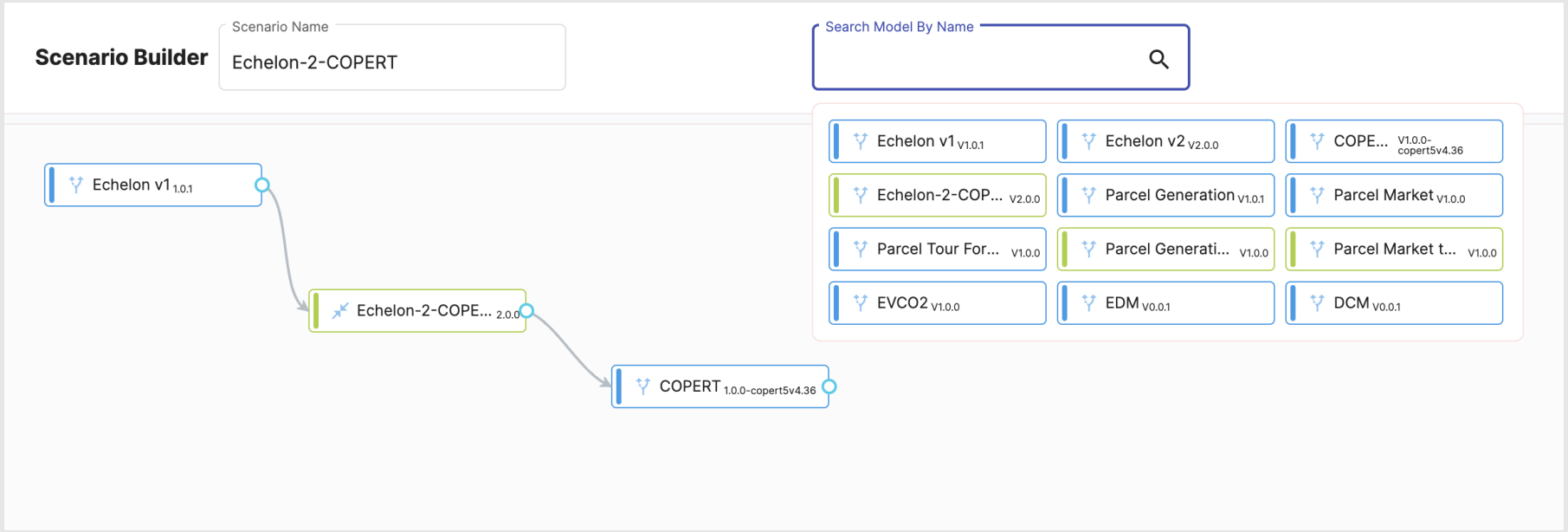
Total Distance



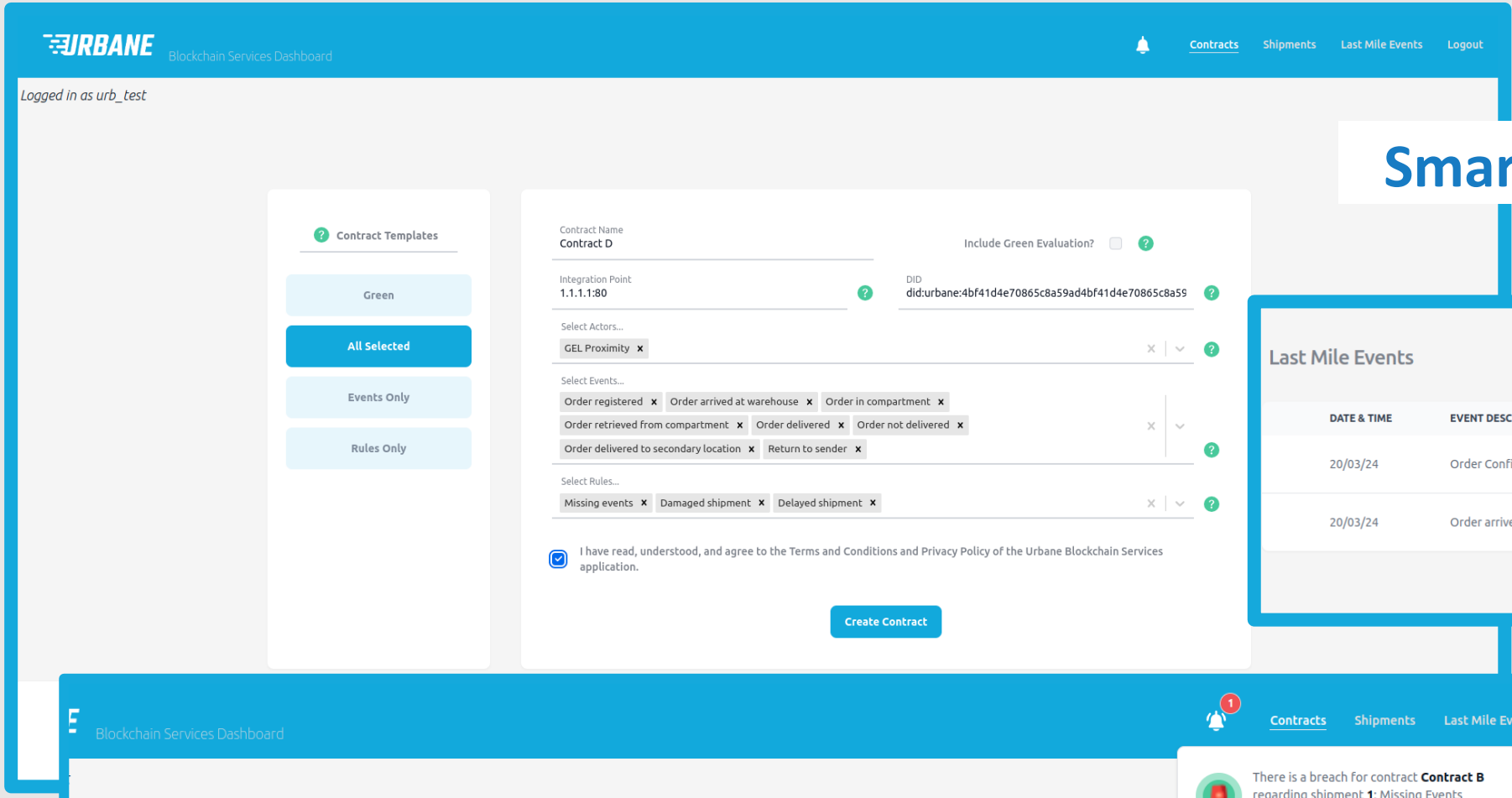
Digital Twins Platform

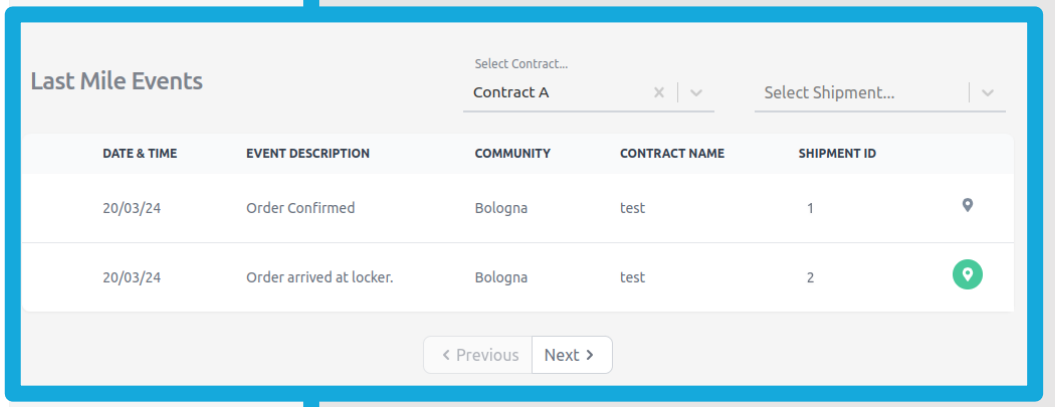


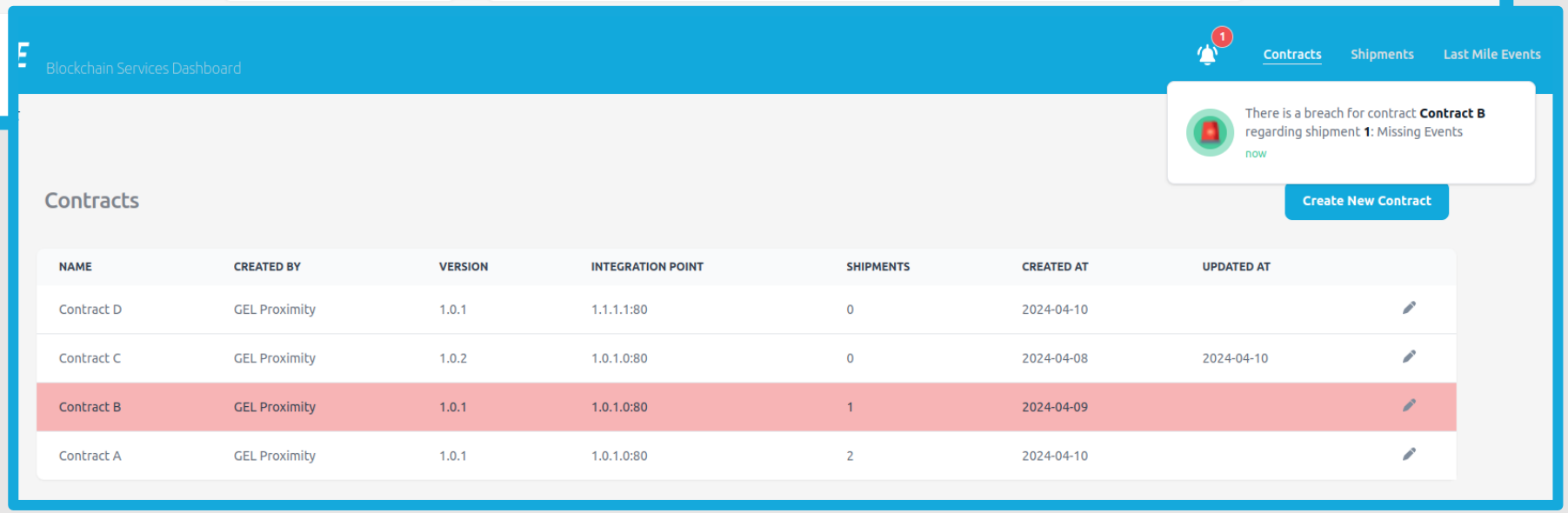
‘Containarised’ models



Smart Contracts Generator

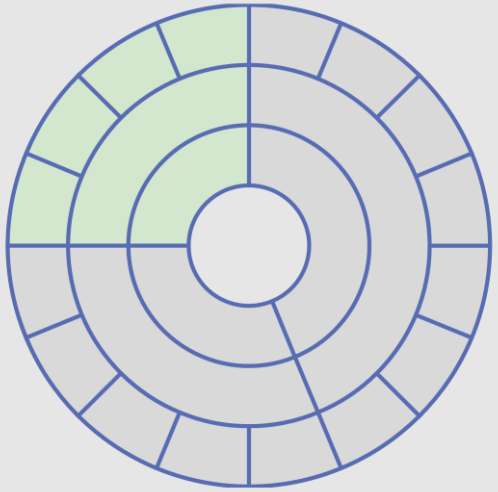






Transferability Enablers

1

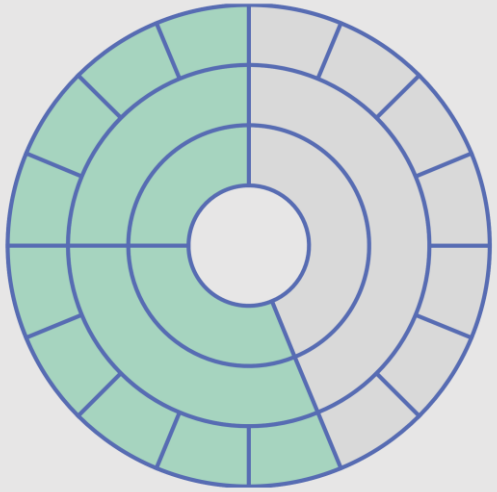


Planning

Impact Assessment Radar

SULPs

2

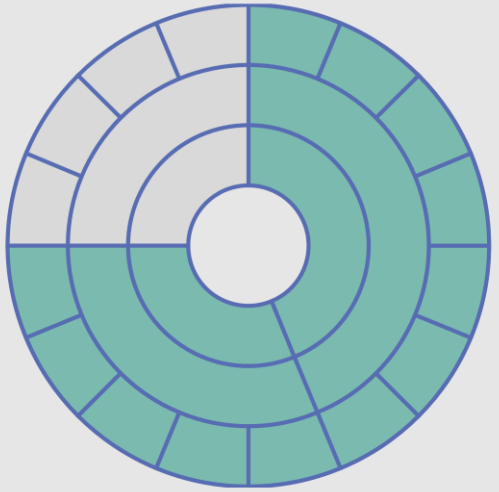


Digital Twinning Platform

Simulation Models

Feasibility Studies

3



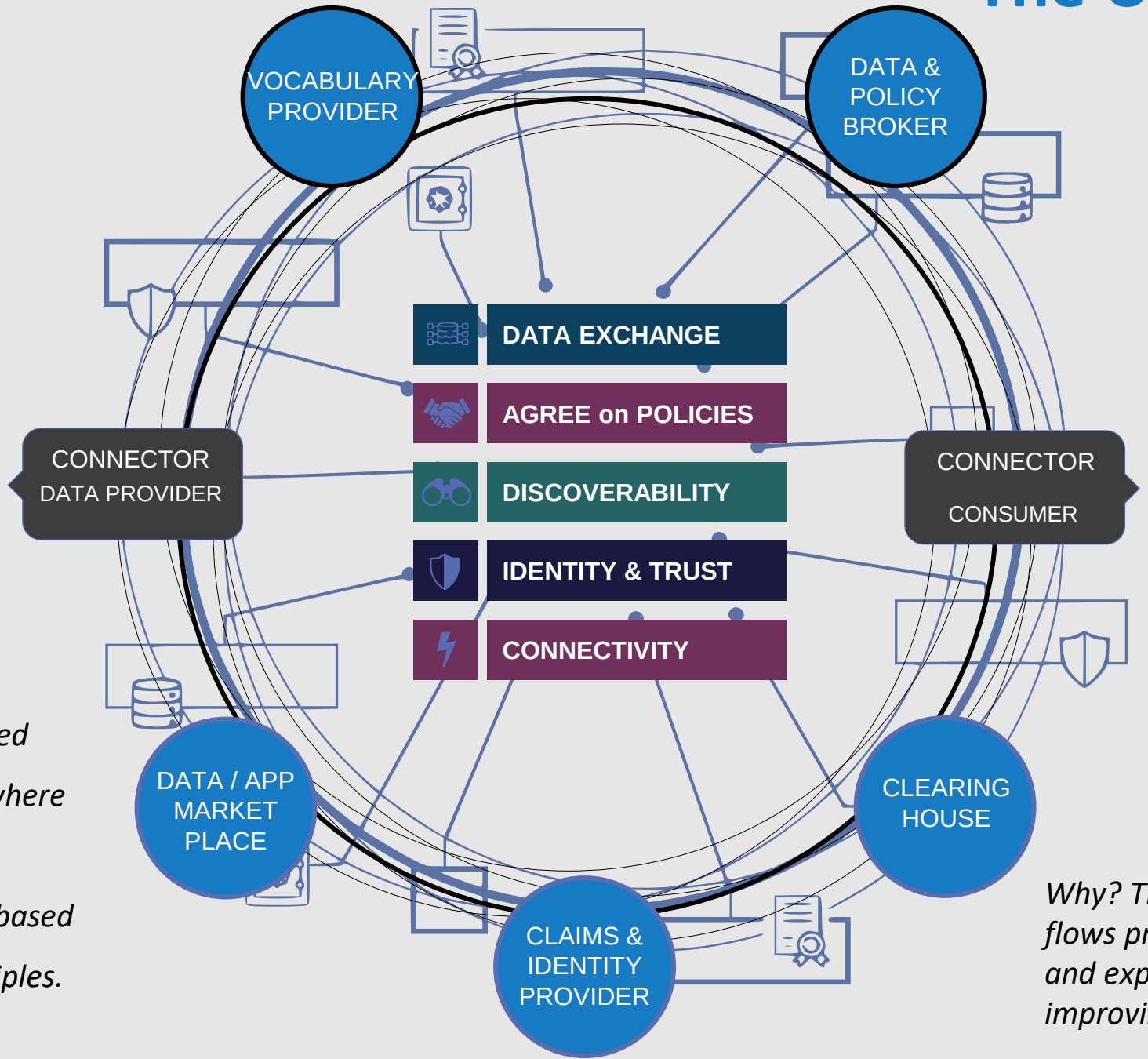
Smart Contract Generator

Collaboration Agreements

Governance

.

The UF Data Space



DATA OWNER

DATA USER

Data Space is a decentralised trustworthy environment where data providers and data consumers exchange data based on commonly agreed principles.

Why? The lack of integration of data flows prohibit discovery of interesting and exploitable opportunities for improving city services.

Paving the way to PI in last-mile logistics

June 2020

LEAD

City-wide Digital Twins

September 2022

Solutions Transferability

May 2023

DISC

UF Data Space

June 2024

AUTOSUP

Autonomous hubs & multimodal supply chains

CIVITAS 2030
Sustainable and smart mobility for all

Funded by the European Union

Thank you!

Ioanna Fergadiotou

INLECOM INNOVATION

ioanna.fergadiotou@inclecomsytems.com

Urban Logistics Innovation Day 2024

Session II - Let's talk about collaboration: Physical Internet, digitalisation and vision of logistics service providers

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THE WORLD'S FIRST CROSS SUPPLY CHAIN ORCHESTRATOR®

TRI ≡ VIZOR

THE WORLD'S FIRST CROSS SUPPLY CHAIN®ORCHESTRATOR™

Towards an Integrated urban logistics system

Guiding principles

For a holistic system approach

Bart Vannieuwenhuyse & Alex Van Breedam

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THE WORLD'S FIRST CROSS SUPPLY CHAIN ORCHESTRATOR

THE WORLD'S FIRST CROSS SUPPLY CHAIN ORCHESTRATOR®

- ≡ The World's first Cross Supply Chain Orchestrator
- ≡ Since November 2008
- ≡ 2 private shareholders

THE WORLD'S FIRST CROSS SUPPLY CHAIN ORCHESTRATOR®

TRI VIZOR is setting up **horizontal collaborations** to:

- Bundle flows
- Cluster activities
- Share capacity
- Pool resources

TRI VIZOR is acting as:

Initiator

Inspiring and preparing companies for what is to come.

Architect

Preparing, designing, calculating and building partnerships and collaborations.

Trustee

Managing and improving partnerships and collaborations.

Urban Logistics System

Initiatives & experiences

- ≡ CULT – Collaborative Urban Logistics & Transport for Shippers - Antwerp
- ≡ “Wij.leveren” – joint distribution platform – Public & Private - Leuven
- ≡ Neutral distribution terminal – Oslo
- ≡ CULT+ - Collaborative Urban Logistics & Transport for Shippers & LSPs - Brussels
- ≡ Urbane – smart last mile logistics - various cities
- ≡ OECD – Urban Logistics Hubs vision paper (2023) - Paris
- ≡ TRI-VIZOR’s positioning paper (2012 > 2024)

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Urban Logistics System

Our mission

Outlining the path to integrated urban logistics with a comprehensive system approach.

--> developing a detailed roadmap for structural sustainable and efficient urban logistics

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Urban Logistics System -

1 model

≡ **Smart logistics** = "more value with less effort"

> A new paradigm in logistics

Urban Logistics System -

2 goals

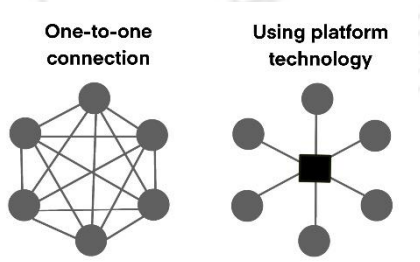
- ≡ **Cost** efficiency – effort minimization
- ≡ **Value** creation – benefit maximization
  - ≡ for <u>all</u> stakeholders = sustainability
  - ≡ Cfr. ROI = $\frac{"Benefit"}{"Effort"}$

Urban Logistics System

3 policy layers

Strategy	Data mgmt Standards and protocols	Modelling strategies/scenarios	Mobility vision and plan with freight flows/logistics included - *integrative, inclusive and fair*
Tactics		Modelling design of system(s)	Holistic (multi-layer) urban logistics system – zoning and clustering – *smart and obvious*
0perations		Modelling optimization options	Operations excellence - *efficient, effective and sustainable*

- ≡ Data as enabler
- ≡ Platform as connector



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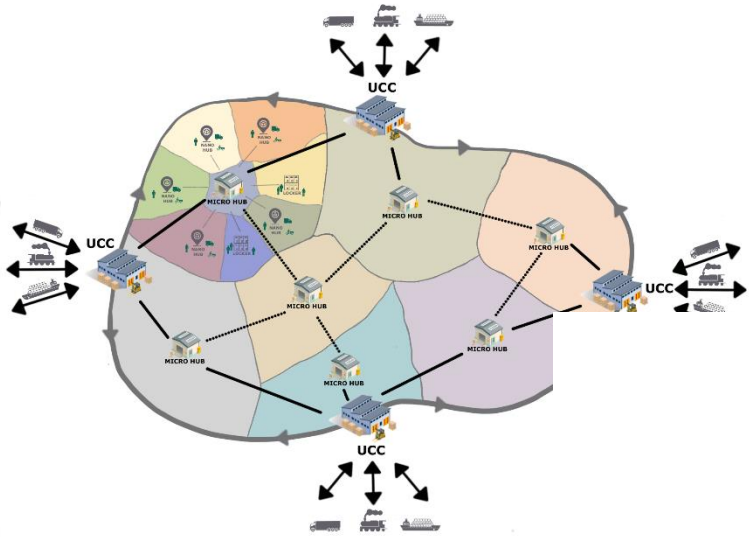
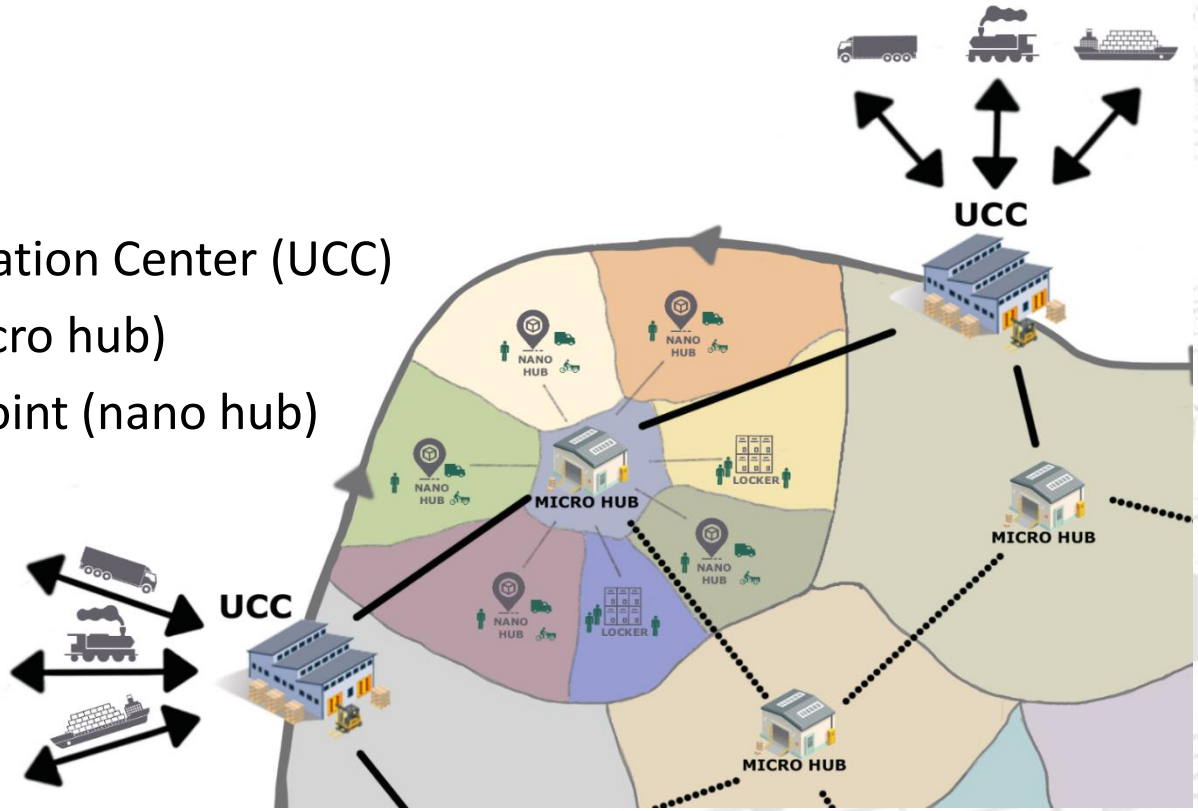
Urban Logistics System -

4 components



1. The Urban Consolidation Center (UCC)
2. The district hub (micro hub)
3. Pick up – drop off point (nano hub)
4. The locker



Urban Logistics System -

5 disciplines

- ≡ Spatial planning
- ≡ Infrastructure
- ≡ Market of demand and supply
- ≡ Business development and branding
- ≡ Innovation

➢ Holistic approach

Urban Logistics System -

6 functions

- ≡ To connect
- ≡ To collect
- ≡ To distribute
- ≡ To (re)position
- ≡ To combine
- ≡ To store

➢ Balance between coupling & decoupling

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Urban Logistics System

Guiding principles

THE WORLD'S FIRST CROSS SUPPLY CHAIN ORCHESTRATOR®

Key principle for urban logistics	Motivation - clarification	Main goal
Consolidation	Bundling, clustering and pooling – asset or capacity sharing – collaboration - "more with less"	Scale - efficiency
Decoupling	Transhipment – replenishment & last mile & last-last mile – from supply-driven towards demand-driven	Agility
Multimodal	Combination of various transport networks (road, rail, water, undergroud and air) – various vehicle types – integration - synchronisation	Sustainability
Connectivity	City of Things (cfr. IoT) – hub & spoke – hyperconnected network – data sharing – community or ecosystem design	Robustness
Open access	Standards and harmonization – protocols - infrastructure on public domaine - neutral assets – white label – common assets	Effectiveness
Public-private	Urban logistics deal – alignment – multilateral agreement – multi-stakeholder covenant	Balance
Orchestration	Governance – organization of collaboration – community or ecosystem building and management - monitoring	Fairness

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Urban Logistics System

Public-private dichotomy

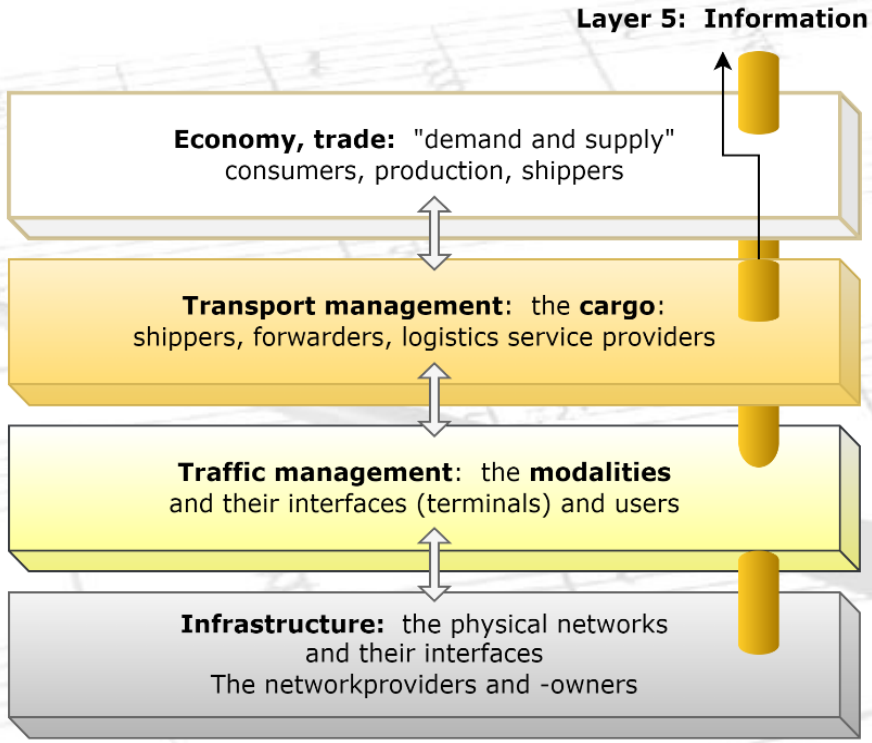
Integrated logistics conceptual model (ILCM)

A model to address the right actors for a smooth and safe goods flow

Private

Public

Transport modes:
Road
Rail
Water (Inland waterway - Deep sea - short sea)
Air
Tube



Source: Tavasszy/ adapted Hazelhorst

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Urban Logistics System

Zoning or Districting

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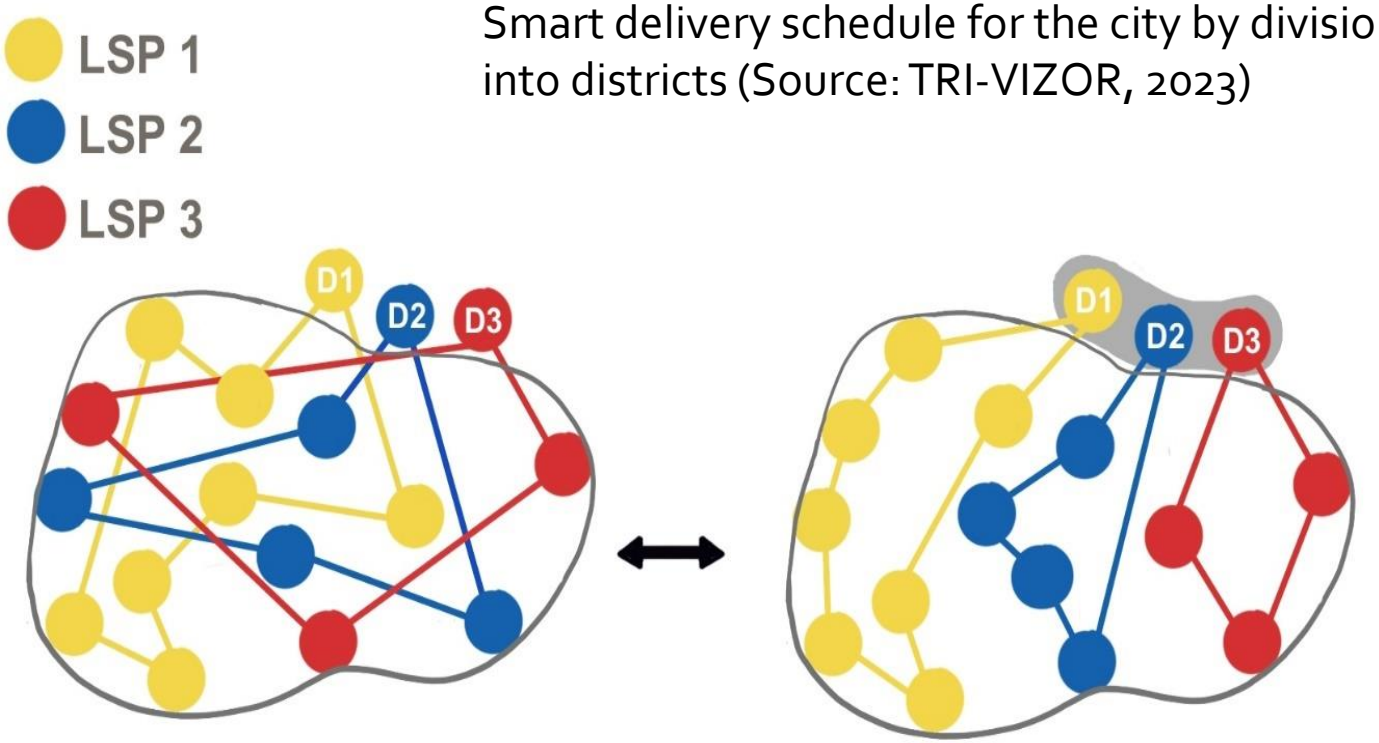
Smart delivery schedule for the city by division into districts (Source: TRI-VIZOR, 2023)



In this schematic example, gains from 18% to 45% are recorded for the respective LSPs through districting, i.e. fewer vehicle kilometers.

Urban Logistics System – "The City of Things"

1. new logistics model or paradigm: smart or "more with less" logistics;
2. goals: cost reduction combined with value creation;
3. management levels: strategic vision and plans; tactical systems and operational excellence;
4. components: the UCC, the micro hub, the nano hub, the locker;
5. disciplines: spatial planning, multimodal infrastructure, market of supply and demand, business development & branding and innovation;
6. functions or tasks that shape transport and logistics: to connect; to collect; to distribute; to reposition; to combine and to store;
7. logical principles for the logistics of the future: consolidation; decoupling; multimodal; connectivity; accessibility; public-private and orchestration.

➢ Towards the "Physical Internet (PI)"

TRI ≡ VIZOR

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Contact

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bavn@trivizor.com

Alex Van Breedam
alvb@trivizor.com

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Urban Logistics Innovation Day 2024

Round Table A - Application of Physical Internet in urban logistics

Find your group in your badge

Urban Logistics Innovation Day 2024

Lunch break

See you back at 13:45

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Urban Logistics Innovation Day 2024

Lunch break

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Urban Logistics Innovation Day 2024

Session III - Efforts made by cities and businesses to decarbonise urban freight

Joshua WEST
Project Officer at C40

Pierre FILS
Director Group Sustainbility at BPost

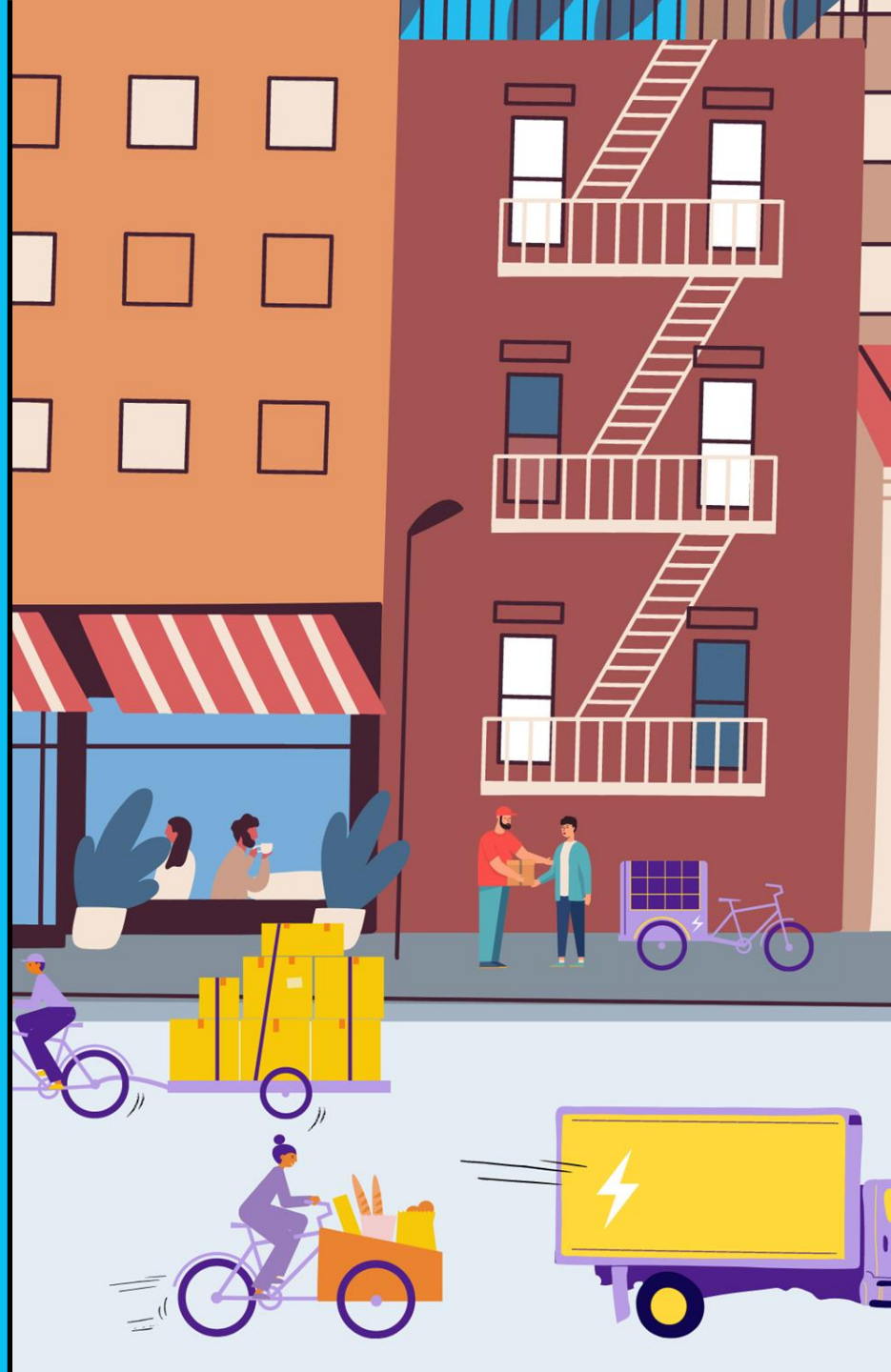
Sébastien HOREMANS
CEO, SmilePickup

Facilitated by Marion COTTET, Project Manager on Urban Logistics at ALICE

Successful city-business freight collaborations

International case studies and best practises

Joshua West
Zero Emission Freight Project Officer
C40 Cities
jwest@c40.org



Agenda

1. C40 intro and transport vision
2. Urban freight goals and barriers
3. What can cities and businesses do
4. Regional spotlights

C40 is a network of nearly 100 world-leading cities collaborating to deliver the urgent action needed to confront the climate crisis.

London Mayor Sadiq Khan, Co-Chair of C40

Freetown Mayor Yvonne Aki-Sawyerr, Co-Chair of C40

© Alexis Gonzalez / Getty Images

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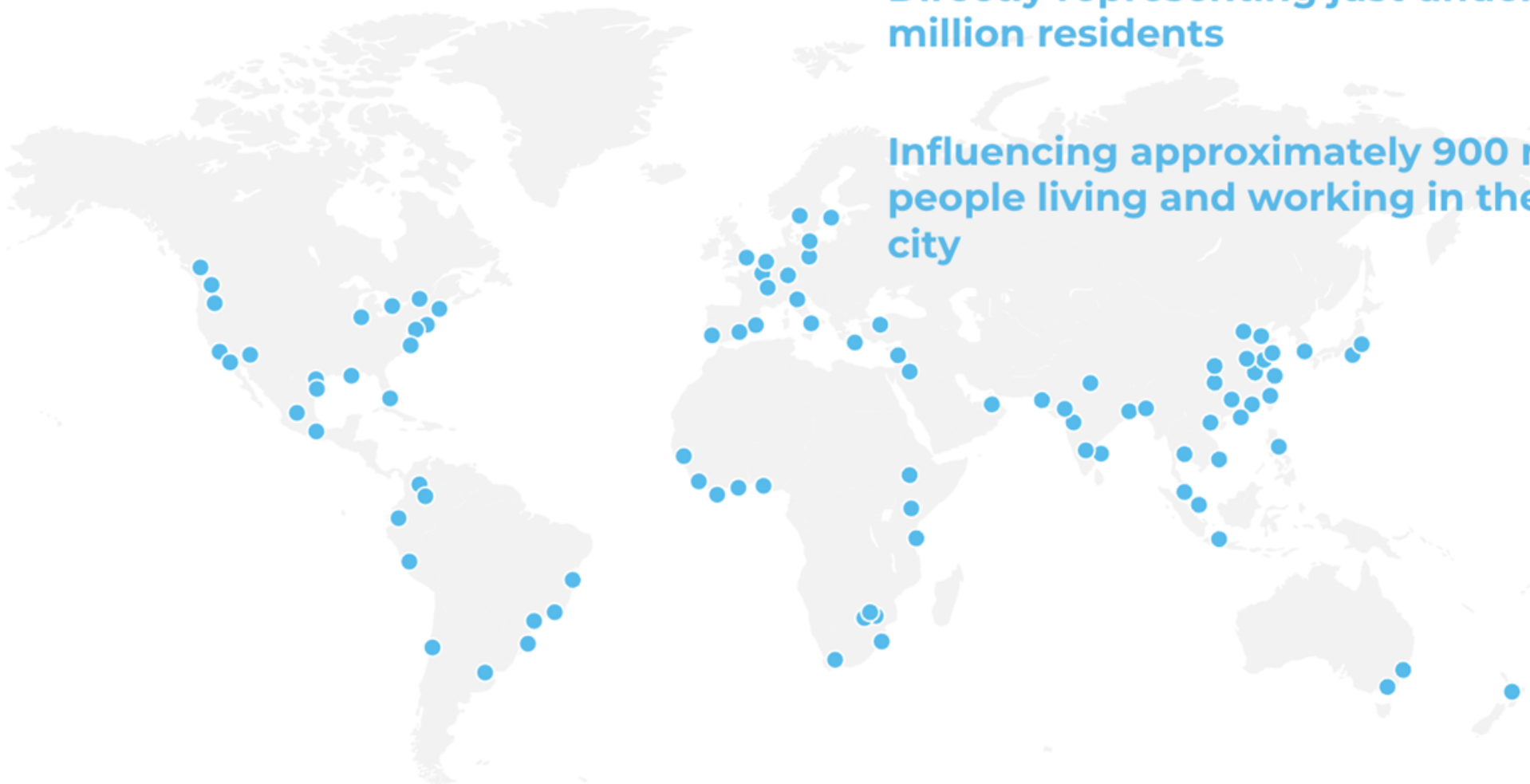
The C40 Cities network

Directly representing just under 600 million residents

Influencing approximately 900 million people living and working in the wider city



AFRICA: ABIDJAN – ACCRA – ADDIS ABABA – CAPE TOWN – DAKAR – DAR ES SALAAM – DURBAN (ETHEKWINI) – EKURHULENI – FREETOWN – JOHANNESBURG – LAGOS – NAIROBI – TSHWANE | **CENTRAL EAST ASIA:** BEIJING CHENGDU – DALIAN – FUZHOU – GUANGZHOU – HANGZHOU – HONG KONG – NANJING – SHANGHAI – SHENZEN – QINGDAO – WUHAN – ZHENJIANG | **EAST, SOUTHEAST ASIA & OCEANIA:** AUCKLAND – BANGKOK – HANOI HO CHI MINH CITY – JAKARTA – KUALA LUMPUR – MELBOURNE – QUEZON CITY – SEOUL – SINGAPORE – SYDNEY – TOKYO – YOKOHAMA | **EUROPE:** AMSTERDAM – ATHENS – BARCELONA – BERLIN – COPENHAGEN – HEIDELBERG ISTANBUL – LISBON – LONDON – MADRID – MILAN – OSLO – PARIS – ROME – ROTTERDAM – STOCKHOLM – TEL AVIV – WARSAW | **LATIN AMERICA:** BOGOTÁ – BUENOS AIRES – CURITIBA – GUADALAJARA – LIMA – MEDELLÍN MEXICO CITY – RIO DE JANEIRO – SALVADOR – SÃO PAULO – SANTIAGO – QUITO | **NORTH AMERICA:** AUSTIN – BOSTON – CHICAGO – HOUSTON – LOS ANGELES – MIAMI – MONTRÉAL – NEW ORLEANS – NEW YORK PHILADELPHIA – PHOENIX – PORTLAND – SAN FRANCISCO – SEATTLE – TORONTO – VANCOUVER – WASHINGTON DC | **SOUTH & WEST ASIA:** AHMEDABAD – AMMAN – BENGALURU – CHENNAI – DELHI – DHAKA – DUBAI KARACHI – KOLKATA – MUMBAI

C40 CITIES

Transportation

C40 supports cities to create sustainable transport strategies which prioritise people-friendly streets over space for cars.

1/3

of C40 cities' emissions come from transport

143

#1

source of urban air pollution is traffic

36

cities will make a major area of their metropolis zero-emission by 2030

C40 CITIES

Transport vision for cities

Emissions are reduced and air quality is improved

Walking, cycling and public transport are safe and accessible

Businesses are thriving and creating good, green jobs

Overall number of private vehicle trips is reduced

Streets are safer for everyone with fewer road injuries

High-mileage vehicles are prioritized for electrification

Accelerated electrification and mode shift

Public space repurposed and more social connections

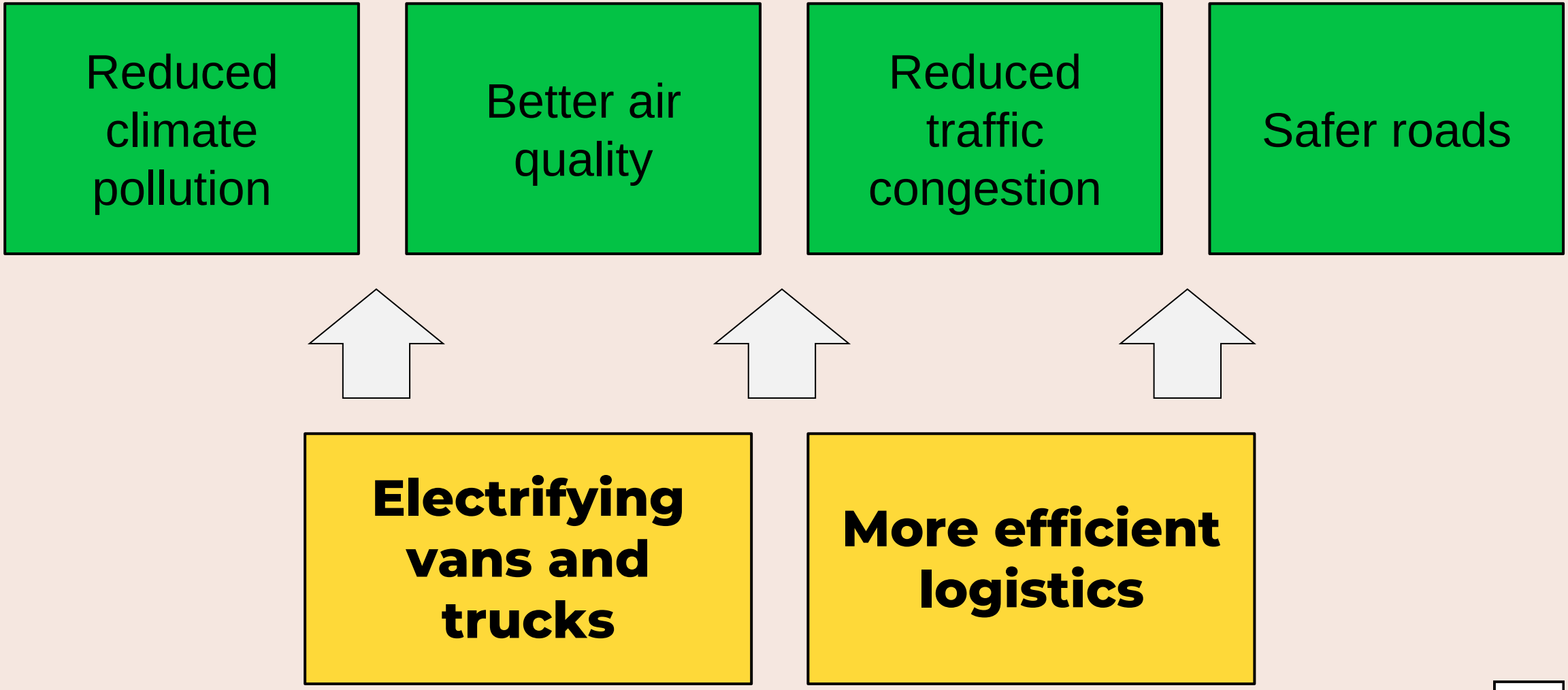
C40 CITIES

C40's unique role

With our network of nearly 100 cities around the globe, we help cities accelerate the uptake of zero-emission freight systems by:

- Connecting cities to share **best practices**.
- Managing on-the-ground **technical assistance** projects.
- **Convening** cities, academics, private sector and technical experts.
- Hosting **webinars** and dynamic **working groups**.

Urban freight goals



Zero emission freight barriers

Costs

Technology hesitance and risk

Lack of public-private collaboration

Lack of available space

Grid readiness and access to charging

Lack of workforce development

C40 CITIES

European City-Business Roundtable: September 2023

What can cities do

- Put freight on the agenda.
- Provide regulatory certainty.
- Build internal capacity.
- Serve as enabler.
- Create forums for public-private knowledge sharing.

What can businesses do

- Make ambitious commitments.
- Build internal capacity.
- Lead on innovation.
- Start now.
- Share lessons learned and data.

C40 CITIES

Europe

London

Stakeholder Advocacy and Engagement

- Dedicated internal TfL team to manage freight stakeholder engagement for London

Annual Freight Forum

- Freight and logistics operators, business groups, local borough councils and TfL

LoCity

- TfL program to help the freight and fleet sector improve air quality and reduce carbon emissions
- City receives direct feedback from the freight community and shares key policy updates on initiatives e.g. London scrappage scheme

Freight Policy Advisory Group

- Working group to develop, create and promote freight policy – current and emerging. Much smaller, specific focus.

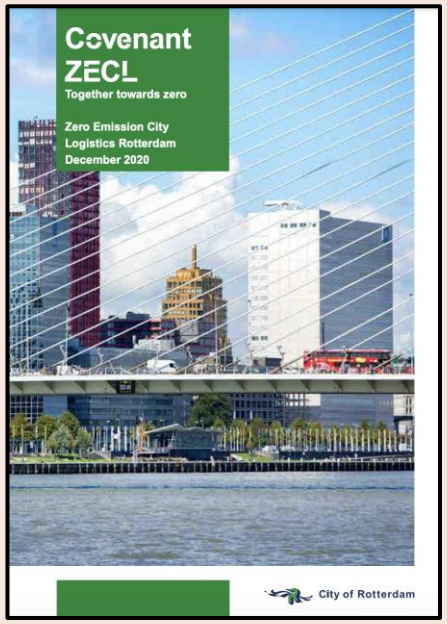
Europe

Rotterdam, Brussels

Rotterdam

Zero Emission Zone for City Logistics Covenant

- 75 private sector signatories (up from 56 since launch)
- Commitments and progress reporting
- Jointly address challenges and opportunities
- Attend the city logistics advisory group



Ecostars

- 1000+ companies (mostly SMEs)
- Members receive free advice and auditing on clean and smart logistics of their company

Brussels

Green Deal on Zero Emission Urban Logistics

- Launched in April 2023
- 50 businesses signed an agreement to implement more sustainable urban logistics practises, setting their own commitments every two years.

Europe

Berlin, Oslo, Paris

Berlin

- X2 micro logistics hubs at Te-Damm and Alexanderplatz train stations.
- Partnership between the local borough district and Deutsche Bahn.

Oslo

- CityHUBs - X3 distribution hubs in the Filipstad borough.
- Strong public and private collaboration - Urban Environment Agency arranged increased power supply to the area.

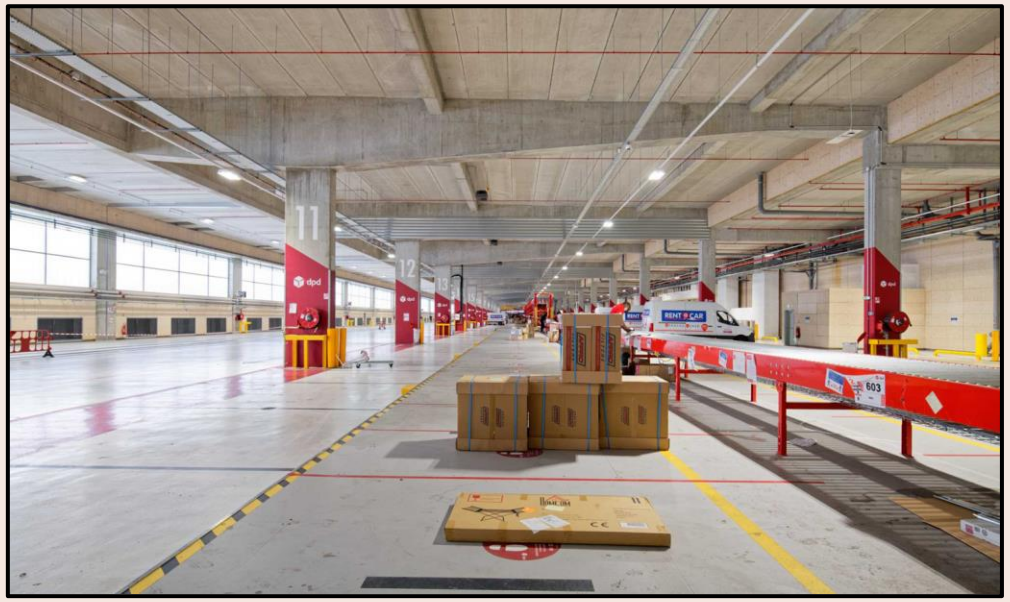
Paris

- Îlot fertile - winner of the call for projects “Réinventer Paris” - launched by the City of Paris.
- Urb-It operating in a distribution hub as part of the new residential development.

Europe

Logistics hotels

- A new type of large logistics facility on municipal land
- Multistory, multi-user, multi-functional design
- Logistics occupy the main area, often in the basement and first floor, with other uses located on the upper levels: offices, sports facilities, shops.



<u>Examples</u>

Lyon - Urban Logistics Hotel *(top right)*

Paris - Chapelle International *(bottom right)* / Vitry logistics hotel / Bercy-Charenton logistics hotel

North America | San Francisco, Los Angeles, NYC

San Francisco
- New city-led public / private working group.
- Part of the city's Eco-Friendly Downtown Delivery Study

Los Angeles
- Transportation Electrification Partnership
  - Multi-year public-private partnership - 30 +members
  - Serving as a model through piloting the nation's first zero emissions delivery zone
- LACI initiative

NYC
- Freight advisory committee
- Clean Trucks Programme - So far, 659 diesel trucks replaced.
- Blue Highways - Open call for private sector collaboration
  - *Request for Information and Expressions of Interest (RFEI) model)*
- Off-hour delivery program - consortium of business partners.

North America | Seattle, Boston, Portland

Seattle

- Commercial E-cargo Bike Program
- Creating external advisory group to inform programme designs and encourage participation

Boston

- Boston Delivers e-cargo bike delivery service
- Subsidised deliveries for SMEs
- Extensive stakeholder engagement throughout led to recalibrated customer focus

Portland

- Zero Emission Delivery Zone pilot project
- Building partnerships with stakeholders to refine and prototype concepts, and report on results

Latin America Laneshift

Objective

Accelerate the deployment of zero-emission freight vehicles in Latin American cities

Workstreams

CITIES & BUSINESS

INDUSTRY

FINANCE

INCLUSION

Projects

- **Mexico City** - Environmental Self-Regulation and Electromobility Programme
- **Bogotá** - Environmental Vehicle Labelling

C40 CITIES

Latin America

Mexico City, Bogotá

Mexico City

- Environmental Self-Regulation and Electromobility Programme
  - 500+ e-LDVs introduced through the programme
  - Connecting businesses to OEMs
  - Development of labor inclusion strategies or training programs

Bogotá

- Environmental Vehicle Labelling
  - Objective to reach 65,000 cargo trucks in the city
  - 2-year voluntary programme
  - Pilot developed with the city, industry, and freight transporters over many months

Final thoughts

- Early involvement
- Regular conveenings
- Targeted discussions
- SME inclusion
- Pilot project to permanent practice

Thank you!

Joshua West
Zero Emission Freight Project Officer
jwest@c40.org

Urban Logistics Innovation Day 2024

Session III - Efforts made by cities and businesses to decarbonise urban freight

Joshua WEST
Project Officer at C40

Pierre FILS
Director Group Sustainbility at BPost

Sébastien HOREMANS
CEO, SmilePickup

Facilitated by Marion COTTET, Project Manager on Urban Logistics at ALICE

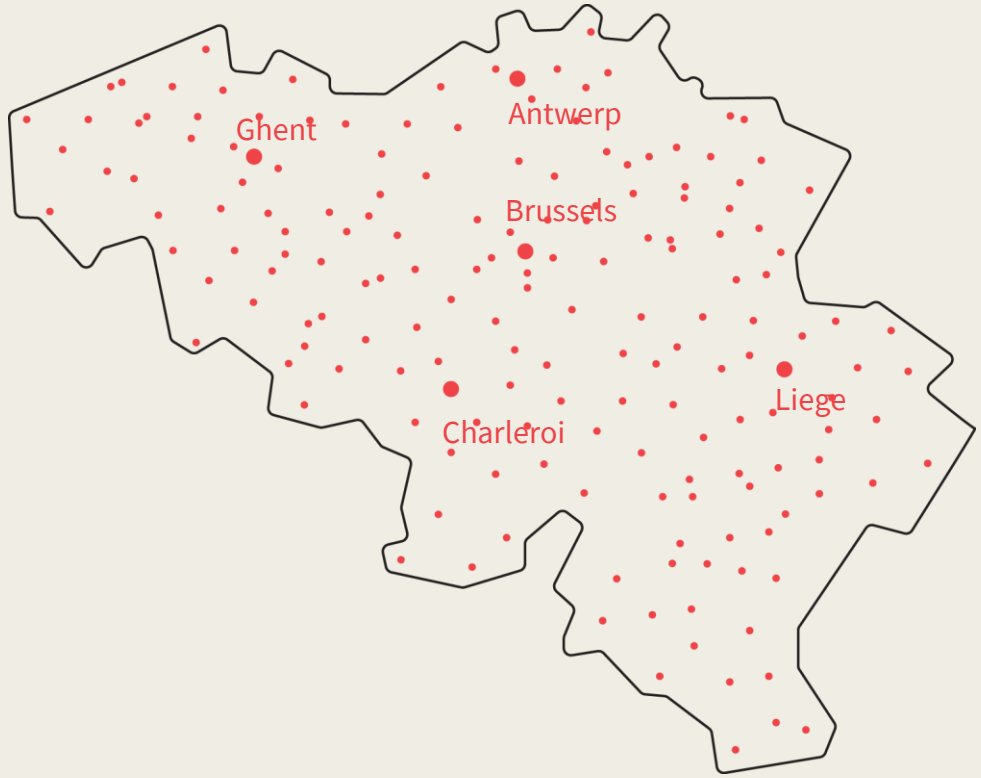
bpostgroup urban logistics

bpostgroup
You make us move.

bpost Belgium

Activities

- The commercial and operational management of **letter mail**, press, periodicals and **parcel delivery** in Belgium.
- Postal and financial services in a dense network of **657 post offices** with **2600 service points** in total.



26.000
FTE

5
sorting centers

5.57
million /day

549,000
/day

You make us move.

Ecozone: 3 pillars : more than electrification

REDUCE TRAFFIC

GREENER FLEET

Pick-up points at walkable distance

- ✓ Consolidation of volume
- ✓ First time right
- ✓ <400m from inhabitants

Soft mobility

- ✓ Bikes and e-trailers
- ✓ Reduce pressure on cities

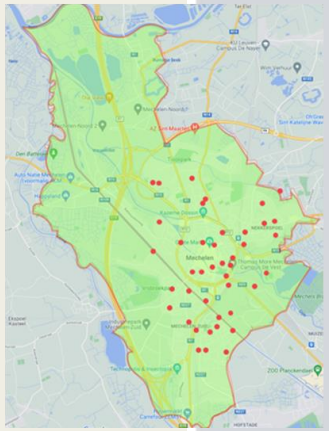
Electrification of fleet

- ✓ e-vans and charging infastructure

ECOZONES cover all these elements to make cities more livable.

Ecozone: 3 pillars

Zip code as an enabler for senders



Ecozone positive impact on bpost/customer ecological footprints

Reduction of CO2 emission

- **97% bpost**
- **80% customer**

Change in behavior

- **78%** pick up the parcels at **< 500m**
- **85%** pick up the parcels **on foot or by bike**

Business as usual 2019

bpost

powering bpostgroup

126,6 ton CO_2/jaar

125,9 ton CO_2
bpost

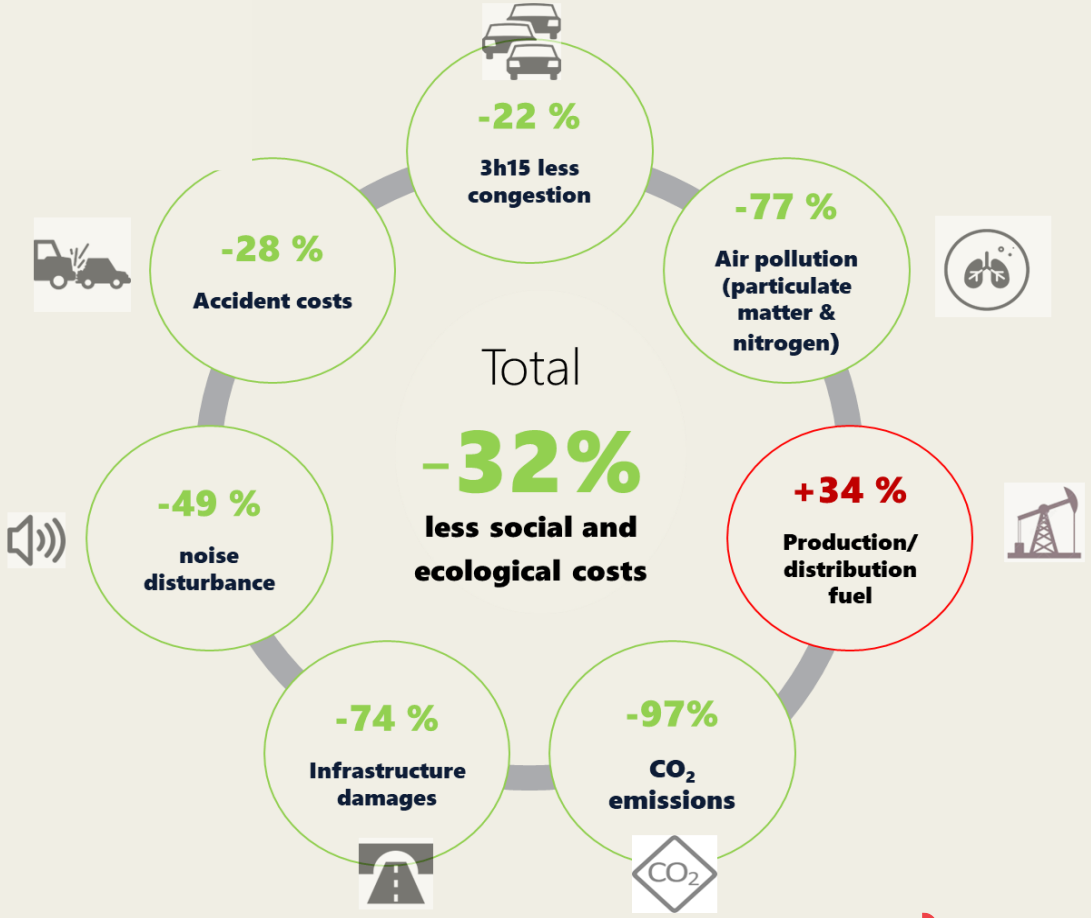
0,7 ton CO_2
from customer driving to PUDO

Ecozone 2021

3,6 ton CO_2/jaar

-122,4 ton CO_2
bpost emission free delivery

- 0,6 ton CO_2
behavioral change of consumers



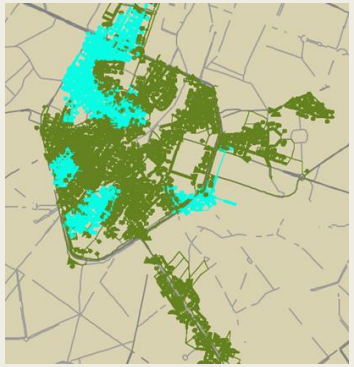
VUB mobilise analysing mobility, mobilising people

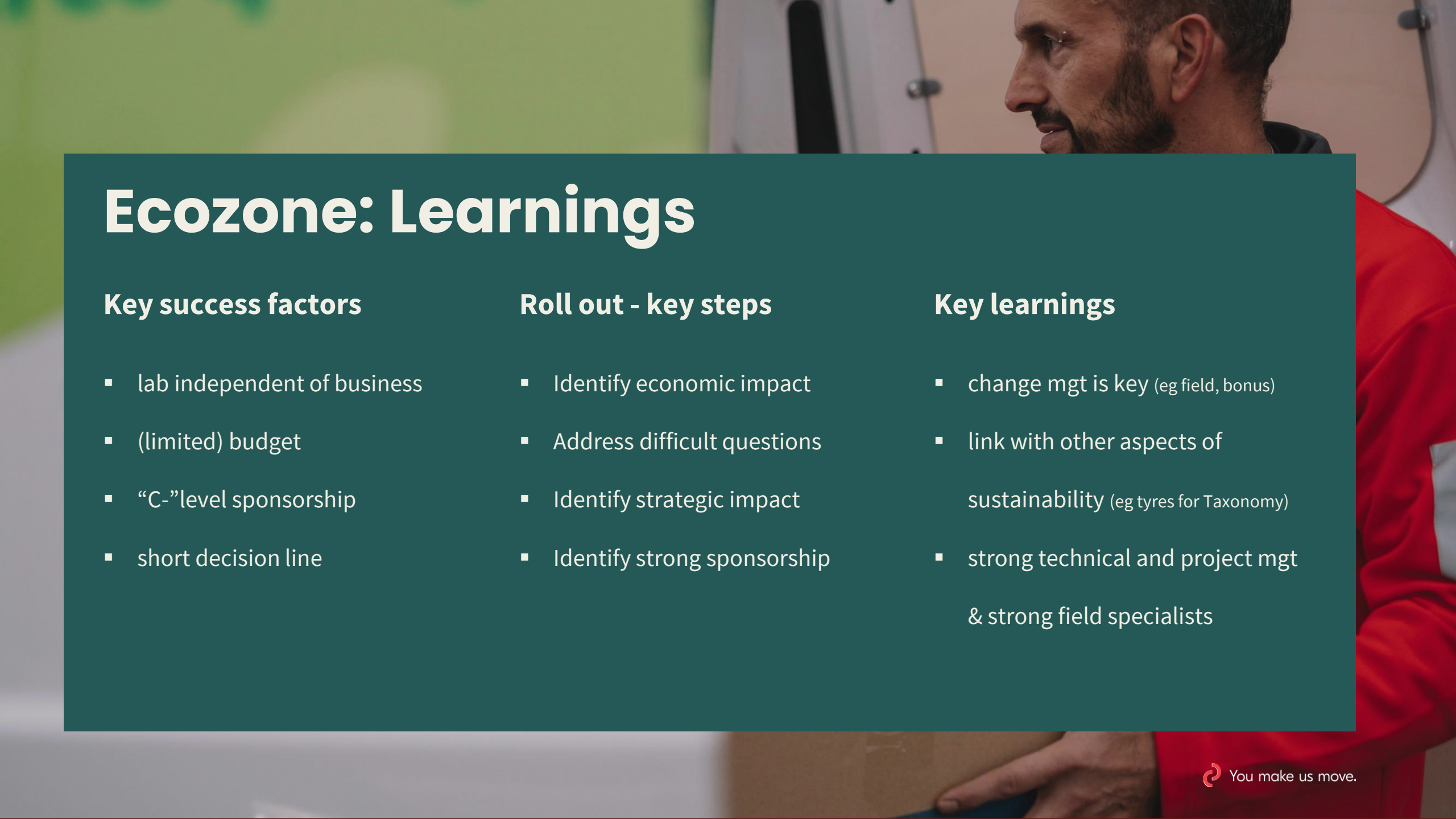
VUB results : CO2 emmission for parcel delivery

*Berekend volgens rekenmodel VUB Mobi op basis van interne bpost organisatie gegevens, periode feb 2020 tot en met feb 2021

You make us move.

Ecozone:
with & by our colleagues





Ecozone: Learnings

Key success factors

- lab independent of business
- (limited) budget
- “C-”level sponsorship
- short decision line

Roll out - key steps

- Identify economic impact
- Address difficult questions
- Identify strategic impact
- Identify strong sponsorship

Key learnings

- change mgt is key (eg field, bonus)
- link with other aspects of sustainability (eg tyres for Taxonomy)
- strong technical and project mgt & strong field specialists

You make us move.

Urban Logistics Innovation Day 2024

Session III - Efforts made by cities and businesses to decarbonise urban freight

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CEO, SmilePickup

Facilitated by Marion COTTET, Project Manager on Urban Logistics at ALICE

SmilePickup/Smil@AI

S Horemans – M Fagot
ALICE - 2024

Introduction

- Smile Pickup is a European specialist of XL collection points
- Nearly 280 XL pickup in France, 27 in Spain (with partners), 3 in Belgium
- Important Investment in R&D : 5 scientific publications since 2022
- A company with a strong corporate social responsibility (CSR)

The SmilePickup mission is …

To offer last-miles solutions and services to make life easier for our customers through two types of SmilePickup Pickup Points:

- SubUrban Pickups

- Urban Pickups

with a pan-European network of pick-up points for all types of parcels

To meet the needs of Europe's urban areas for greener logistics.

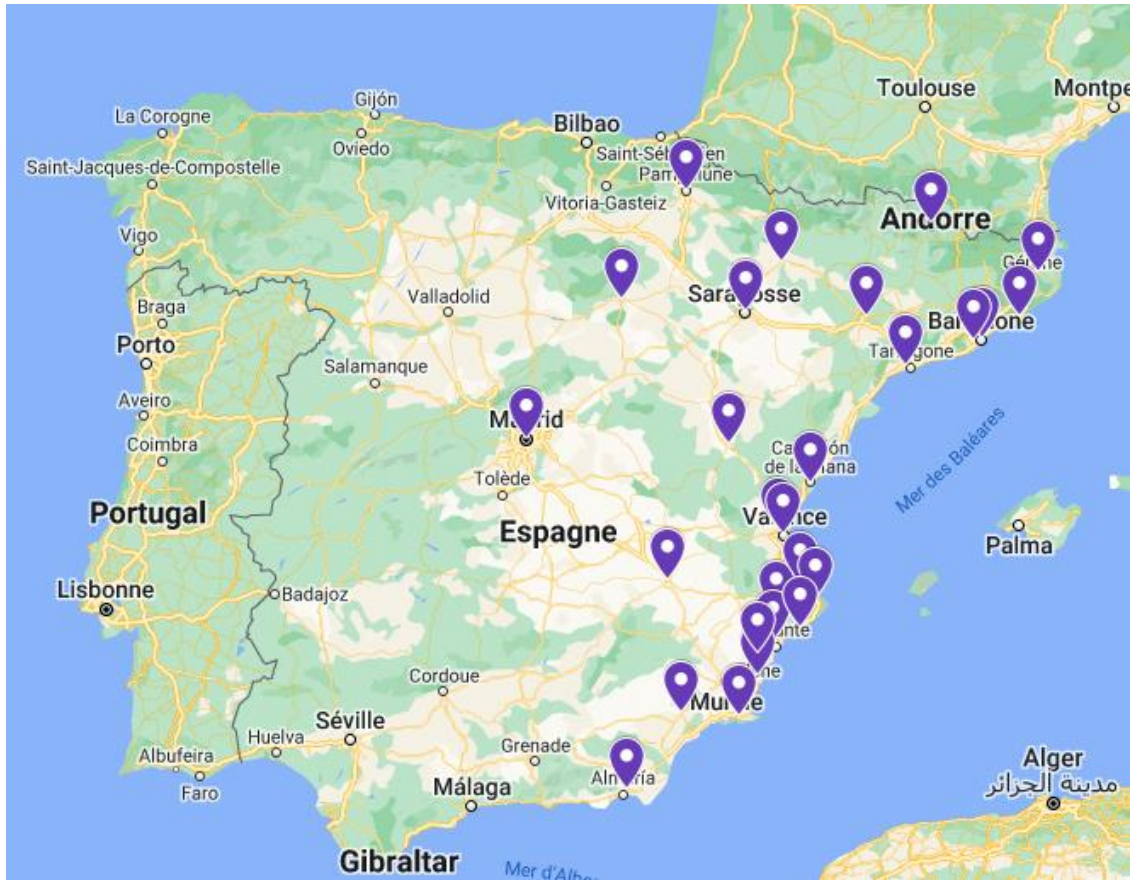
French Startup created en 2018

First french XL pickup points network

300 *Pick-up* XL opened (400 in 2025)

SMILE PICKUP

Europa



27 PP in Spain

3 PP in Belgium

Our Customers

SMILE PICKUP

Member of ALICE (UE)

The SmilePickup concept

- We currently have a majority of pick-up points in exclusive partnership with supermarkets, transport companies and associations (reintegration of people in difficulty), which has enabled us to roll out our services rapidly.

- Eventually, we work to roll out our concept on our own or as a franchise, with all the associated services. 3 pickups for the end of 2023, 9 for the end of 2024.

The Westfield partnership

We opened our first pick-up point in Europe's largest shopping mall in Lyon. By the end of 2025, we aim to have opened 16 SmilePickup stores in WestField shopping centers in France.

Then we should open all Westfield European shopping centers (61 in Europa).

Westfield is the world leader in shopping centers.

News

For the sixth year running, SmilePickup was profitable, with double-digit growth (12% EBITDA).

We are launching our second capital increase to pursue our development.

The problems specific to our business

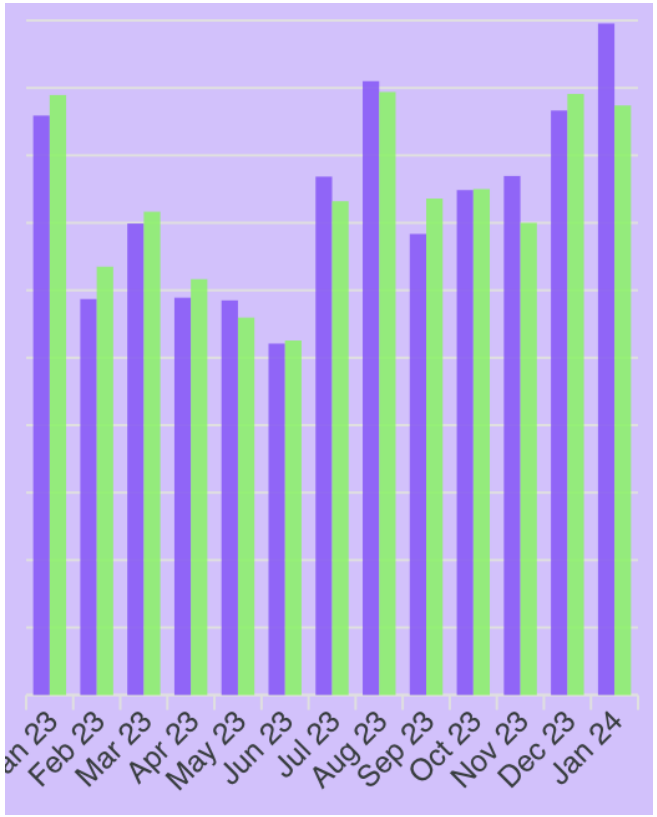
- Finding the right locations for our pickup points
- Anticipate flows at our pickup points
- Optimize the supply to our pickup points
- The solution : Smil@AI, an unsupervised artificial intelligence solution dedicated to the last mile, which has been the subject of 5 international scientific publications

Finding the right locations for our pickup points

- Using over 100 variables (proximity to shopping centers, highways, population typology, etc.) we were able to determine 400 locations thanks to our artificial intelligence engine.
- Only a few addresses had to be corrected by our staff
- Smil@AI enabled us to define the target map for our sites in France. We're working on the rest of Europe.

Anticipate flows in our pickup points

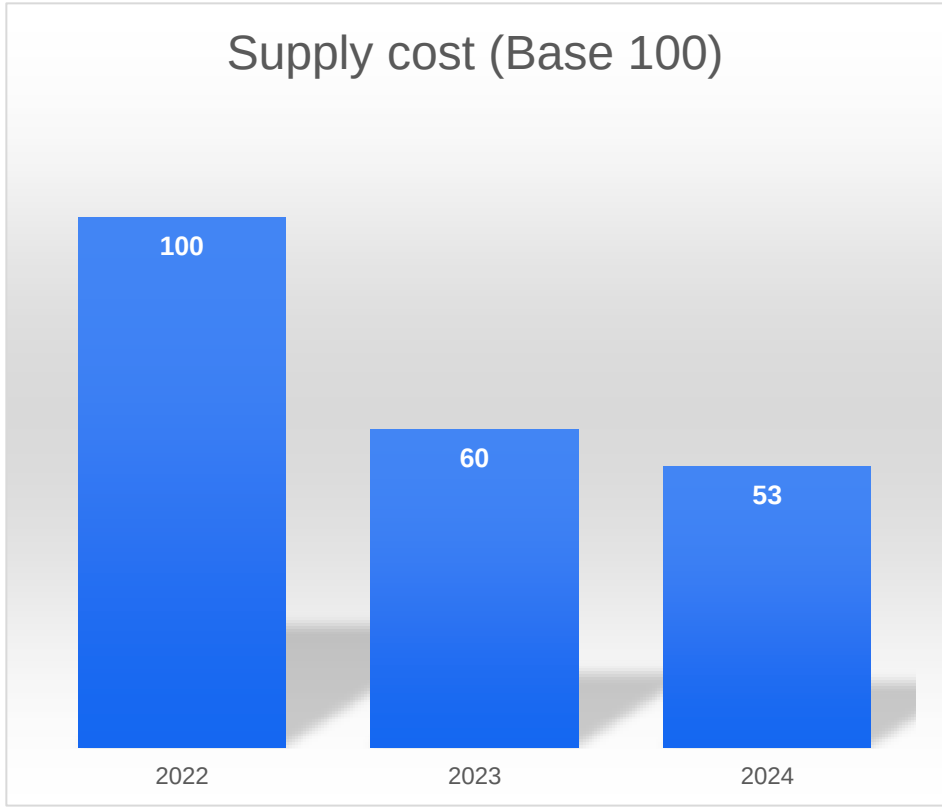
- Our business is highly seasonal, depending on the product. For example, furniture peaks in December, January, July and August. Other criteria may come into play: pandemics, elections, economic climate, etc...
- Smil@AI enables us to anticipate these variations, by anticipating the means of transport and the space available at pick-up points.



Optimize the supply to our pickup points

In 2022, we had to take charge of transporting XL IKEA orders to our collection points. This was a totally new business for us.

Thanks to Smil@AI, we cut our transport costs by 40% between 2022 and 2023. We expect a further double-digit reduction in 2024.



Smile Pickup : Optimisation of an applied routing problem

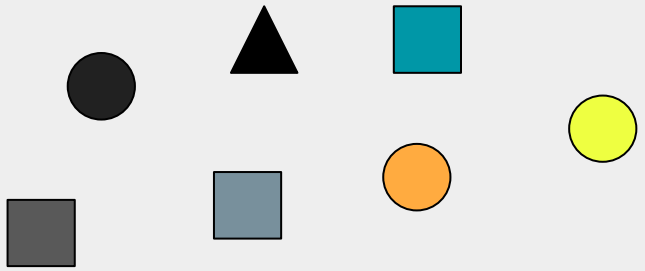
Matthieu FAGOT : researcher SMIL@AI

Introduction

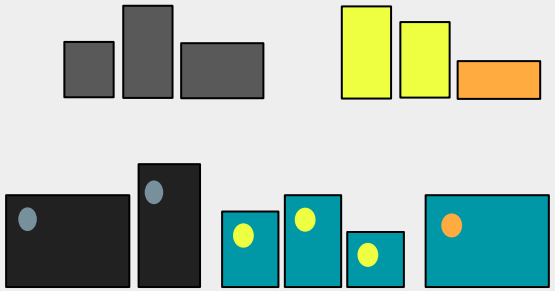
Vehicle Routing Problem with Time Windows

NP-hard problem.

Set of points



Set of parcels



Heterogeneous fleet

Introduction

The **objective** is to

build a set of routes in order to deliver a maximum number of parcels while :

1 : minimising the **distance** travelled and the **cost of the vehicles used**.

2 : **satisfying the constraints** of the specific Smile Pickup Problem

Heterogeneous fleet	Pickup and delivery constraints	Release and due dates
Storing capacities	Multiples time windows	Vehicle packing

Our goal

1 - Build an efficient framework to solve a large variety of complex vehicle routing problems

2 - Being able to adapt the solution to the client's need and specificity.

Our solution

1 - Use a Large Neighborhood Search Framework (flexible, simple, efficient)

2 - Reinforcement Learning to adapt to the client's problem and enhance the performance of LNS.

Large Neighborhood Search

It is a method for solving optimisation problems that consists of moving **from one solution to a neighbouring solution** in order to explore the solution space.

To do this, we need to define ...

Deteriorating movements : worst point removal, cluster removal, …

Constructive movements : greedy heuristic, regret heuristic, …

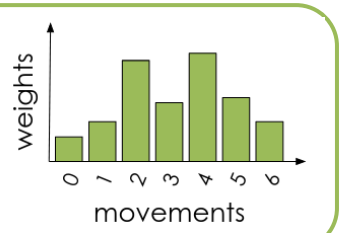
and a general strategy: Large Neighborhood Search

Large Neighborhood Search

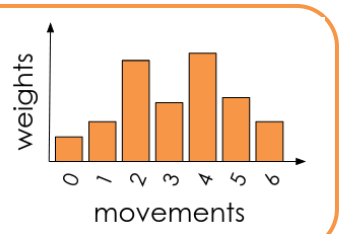
1. Initial solution with a greedy algorithm.

2. Loop until max time is exceeded.

3A. Choose a deteriorating movement according to fixed distribution.



3B. Choose a constructive movement according to fixed distribution.



4. Apply the pair of movement

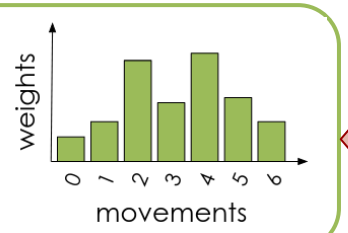
5. Update best solution.

Adaptive Large Neighborhood Search

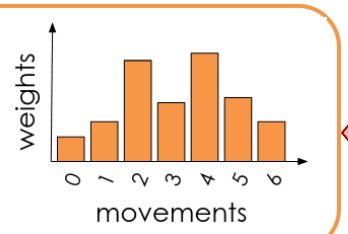
1. Initial solution with a greedy algorithm.

2. Loop until max time is exceeded.

3A. Choose a deteriorating movement according to fixed distribution.



3B. Choose a constructive movement according to fixed distribution.

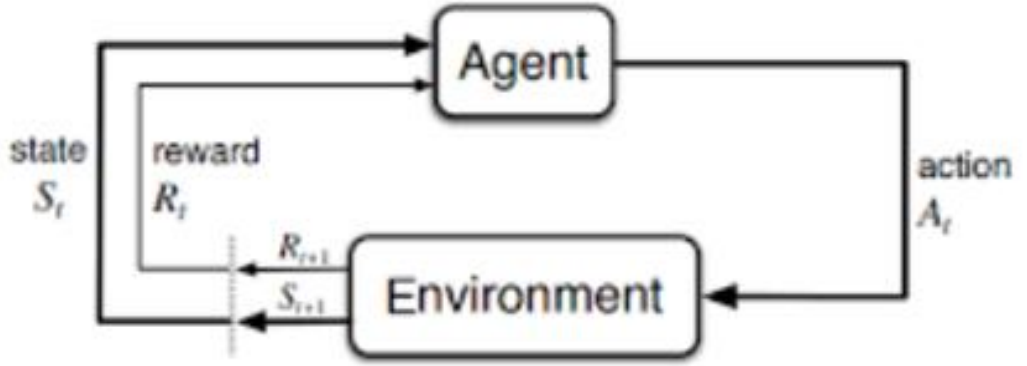


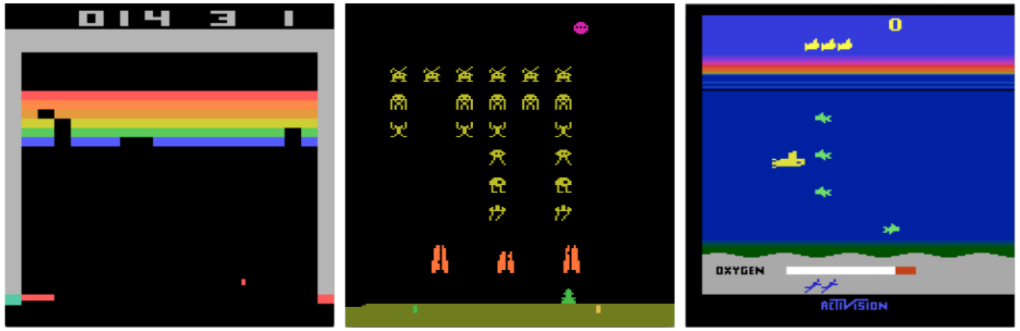
4. Apply the pair of movement

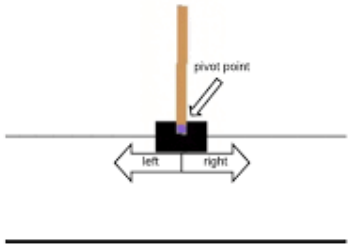
5A. update distributions by giving rewards to improving pairs of movements

5B. Update best solution.

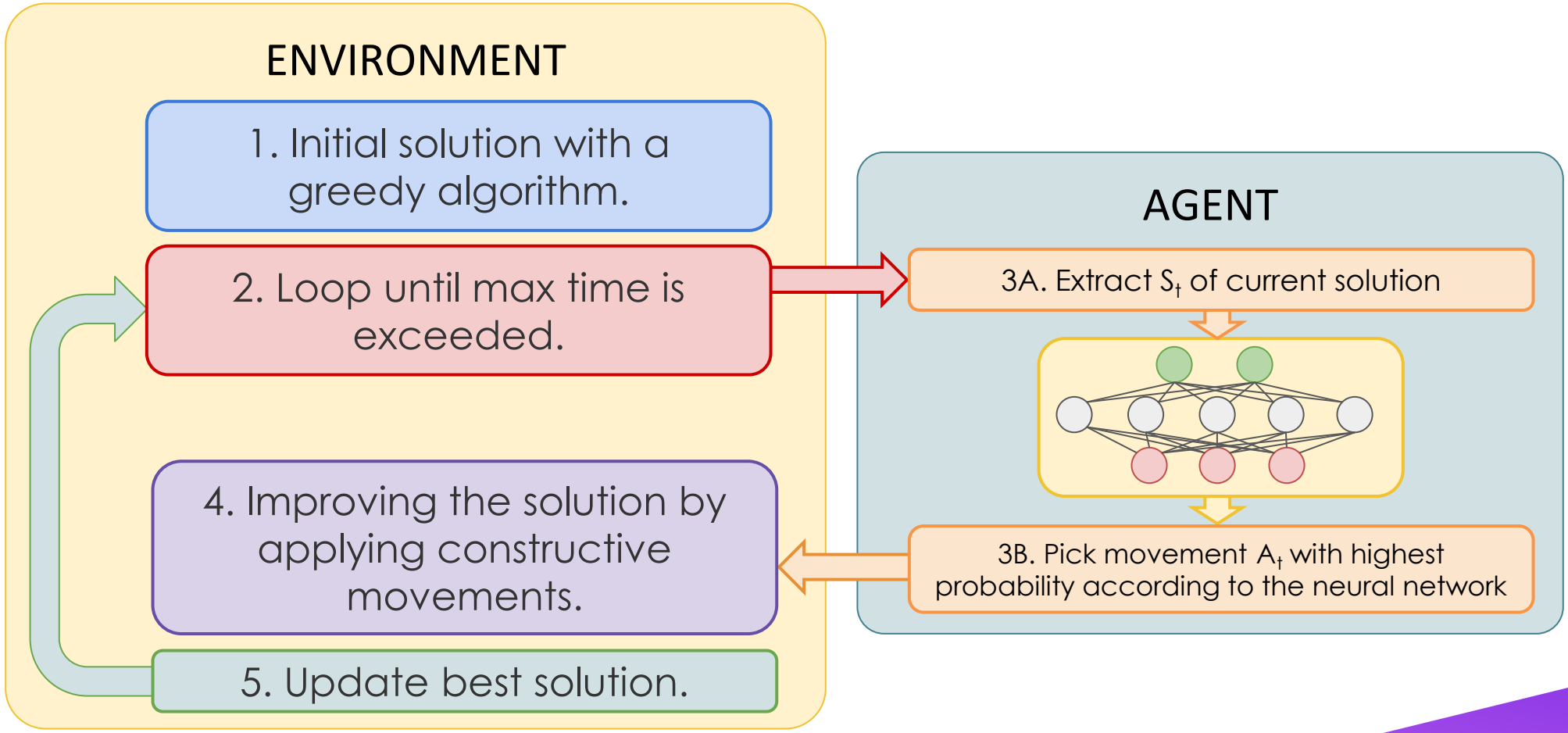
Deep Reinforcement Learning





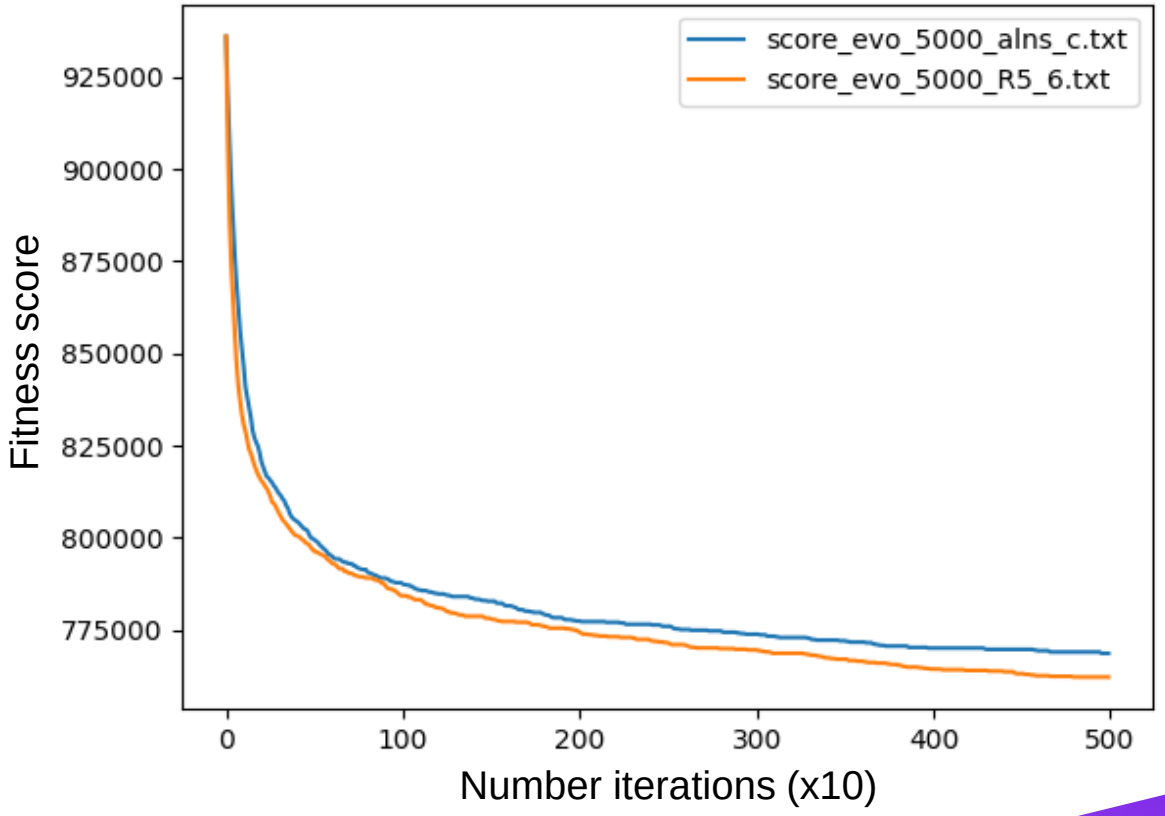


Reinforcement Learning Large Neighbourhood Search



RL-LNS : comparison of ALNS and RL-ALNS models

Size of instances	100	200	400	600
Nb of instances	56	60	60	60
Optimal Scores	724235	1159467	2306460	3454744
Scores RL-Alns*	761209 (+5.1%)	1206650 (+4.0%)	2436410 (+5.6%)	3662839 (+6.0%)
Scores Alns	767096 (+5.9%)	1226700 (+5.8%)	2446917 (+6.1%)	3680176 (+6.5%)
Average gain in vehicles	- 1/2 vehicle	- 2 vehicles	- 1 vehicles	- 2 vehicles



Comparison of RL-Alns, Alns and optimal solutions depending on instance size

The results are obtained by averaging the scores over 10 executions of each instance.

* The RL-Alns models were trained on 18 instances of size 100.

Contributions

1 - Optimisation de la sélection des opérateurs d'un algorithme Adaptive Large Neighborhood Search par de l'apprentissage par renforcement profond, M Fagot, L Devendeville, C Lucet, 25eme ROADEF, 2024.

2 - Adaptive Local Search for a Pickup and Delivery Problem Applied to Large Parcel Distribution, M Fagot, L Devendeville, C Lucet, *International Conference on Opitmization and Learning*, 2023.

3 - Adaptive Large Neighbourhood Search pour un problème appliqué de Pickup and Delivery avec fenêtres de temps, M Fagot, L Devendeville, C Lucet, 24eme ROADEF, 2023.

4 - Problème de tournées de véhicules avec fenêtres de livraison multiples chez Smile Pickup, M Fagot, L Devendeville, C Lucet, 23eme ROADEF, 2022.

5 - Adaptive Large Neighbourhood Search for pickup and Delivery problem with time windows, M Fagot, L Devendeville, C Lucet, 21th EU/ME meeting x Quantum School, 2023

Thank you
for your attention

Do you have any question?

SMILE PICKUP

Urban Logistics Innovation Day 2024

Round Table B - Addressing future challenges - circular economy

Find your group in your badge

Urban Logistics Innovation Day 2024

Coffee break

See you back at 15:30

POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

alice | Alliance for Logistics Innovation through Collaboration in Europe

In collaboration with

DISC

Urban Logistics Innovation Day 2024

Coffee break

See you back at 15:30

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Urban Logistics Innovation Day 2024

Session IV: Let's talk about data sharing for policy making and impact monitoring

Facilitated by Yanying LI, Head of Programs and Knowledge Management at ALICE

Urban Logistics Innovation Day 2024

Session IV - Let's talk about data sharing for policy making and impact monitoring

Speaker

Joris BECKERS

Research Professor at the University of Antwerp

Panellists

Tom ANTONISSEN

Executive Director at European Parking Association

Johan LEVEQUE

Director Research and Development, La Poste

Anton RENARD

Mobility Consultant, City of Antwerp

Bart LANNOO

Innovation Director, BE-Mobile

Joris BECKERS

Research Professor at the University of Antwerp

Facilitated by Yanying LI,
Head of Programmes and Knowledge Management at ALICE

Data for urban freight policy

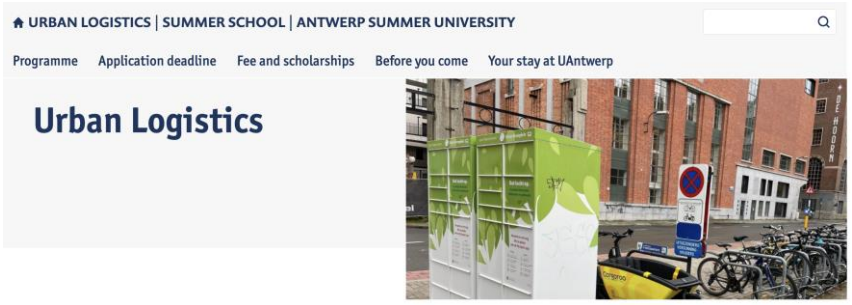
Joris Beckers
Research Professor Urban Transport
Universiteit Antwerpen

University of Antwerp
Faculty of Business and Economics

Research team

- EU: ***GREEN-LOG, GreenTurn, MoLo hubs***
- FL: ***STRAUSS, R!SULT***

- **Summer School on Urban Logistics**



- **5PhD students & 4 Postdocs**
- **2 INTERREG, 3 HEurope, 1 MSCA, 1 VLAIO**

Convenant Mechelen

3.7 DATA

Engagement

Verder inzicht verkrijgen in de omvang van stedelijke distributie tijdens de venstertijden. Het verder verfijnen van de logistieke profielen en hun aandeel.

Acties

Stad Mechelen:

- In samenwerking met een academische partner zullen data verwerkt en geanalyseerd worden. Verder beleid en maatregelen worden hierop gebaseerd. De stad onderzoekt ook hoe data op een anonieme manier kunnen gedeeld worden. Het aanleveren van data moet op een zo eenvoudig mogelijke wijze gebeuren zonder dat dit bijkomende IT-gerelateerde investeringen vergt. Samen met de academische partner en de ondertekenaars van het convenant wordt bepaald welke data gedeeld kunnen worden.

Logistieke sector en handelaars:

- Logistieke spelers en handelaars zullen hun data delen, zodat de stad de impact van het convenant kan meten. Zo wil de stad KPI's vastleggen en jaarlijks evalueren op basis van het percentage duurzaam gereden kilometers. De stad garandeert dat deze anoniem worden verwerkt en geanalyseerd.

Data – what for?

1. Observe

What is going on? – Understand actors, their behavior and their needs

2. Plan and Act

What to do? – Know what to do, for who, in what location

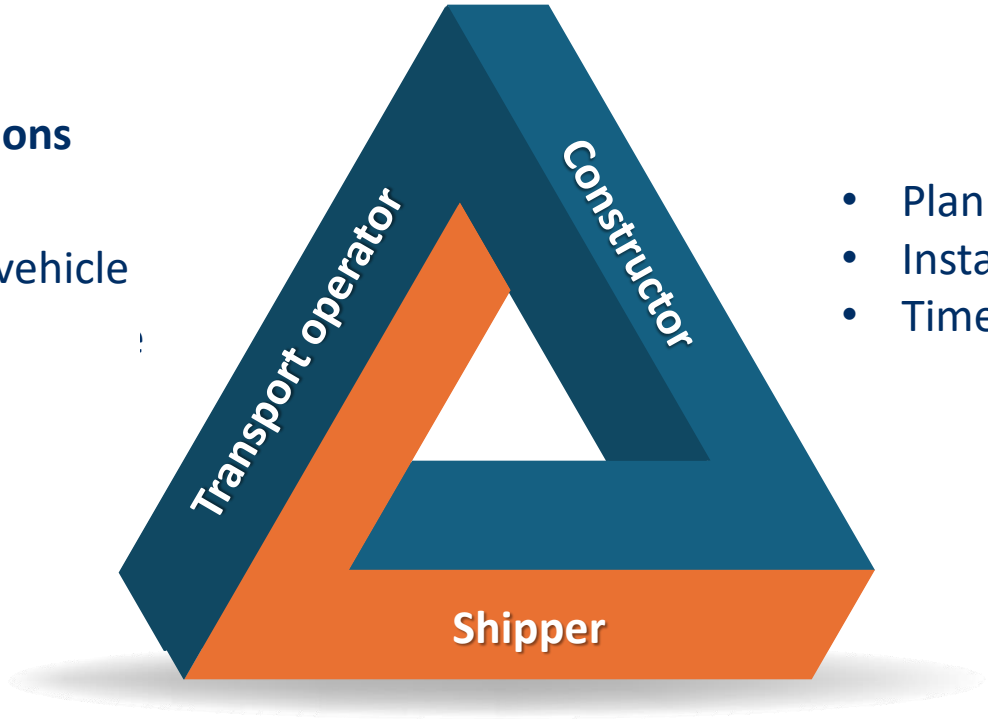
3. Evaluate

How is it going? – What and how to measure progress on targets

1. Observe - actors

Transport decisions

- From #pallets to trips
- Allocation of sites to vehicle
- Vehicle mode



Construction site

- Planned orders
- Instant orders
- Time of delivery

Logistics decisions

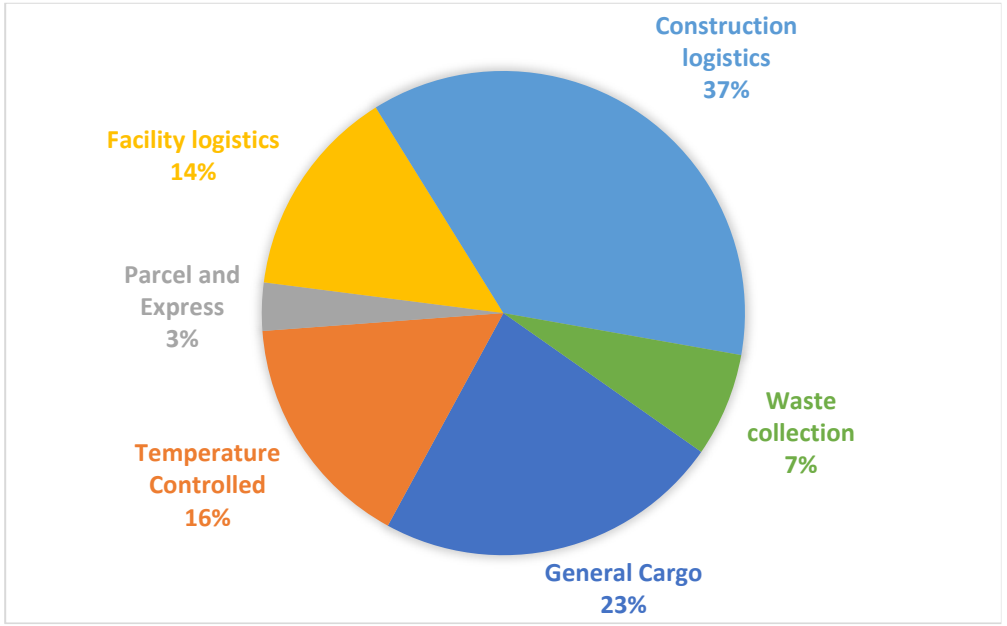
- From #orders to #pallets
- Warehouse
- Delivery consolidation
- Return flows?

Source: Beckers et al. (2022). Managing household freight: The impact of online shopping on residential freight trips. Transport Policy.

1. Observe - behavior

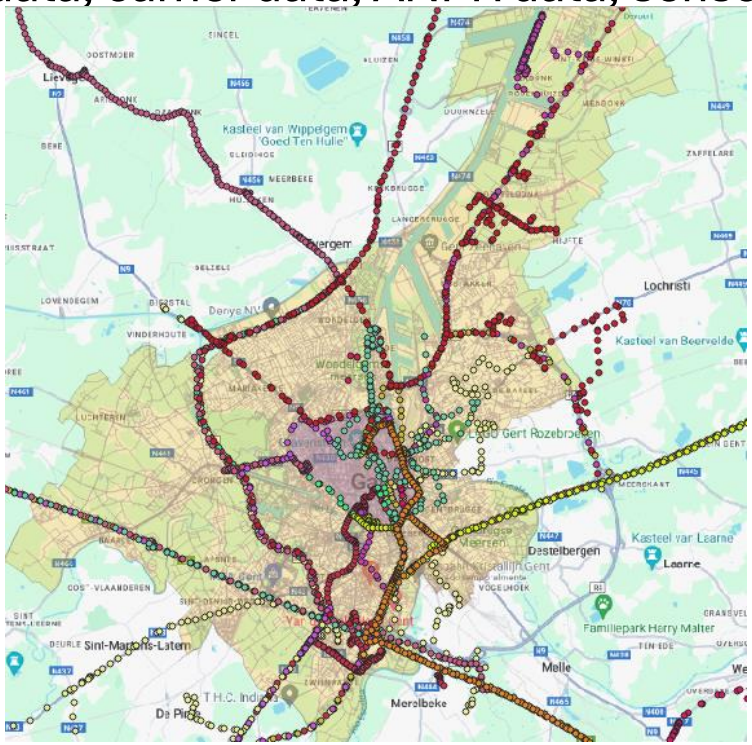
Establishment data

- Delivery profile, i.e. the *demand*
- Receiver-perspective
- Establishment surveys, carrier data, sensor…

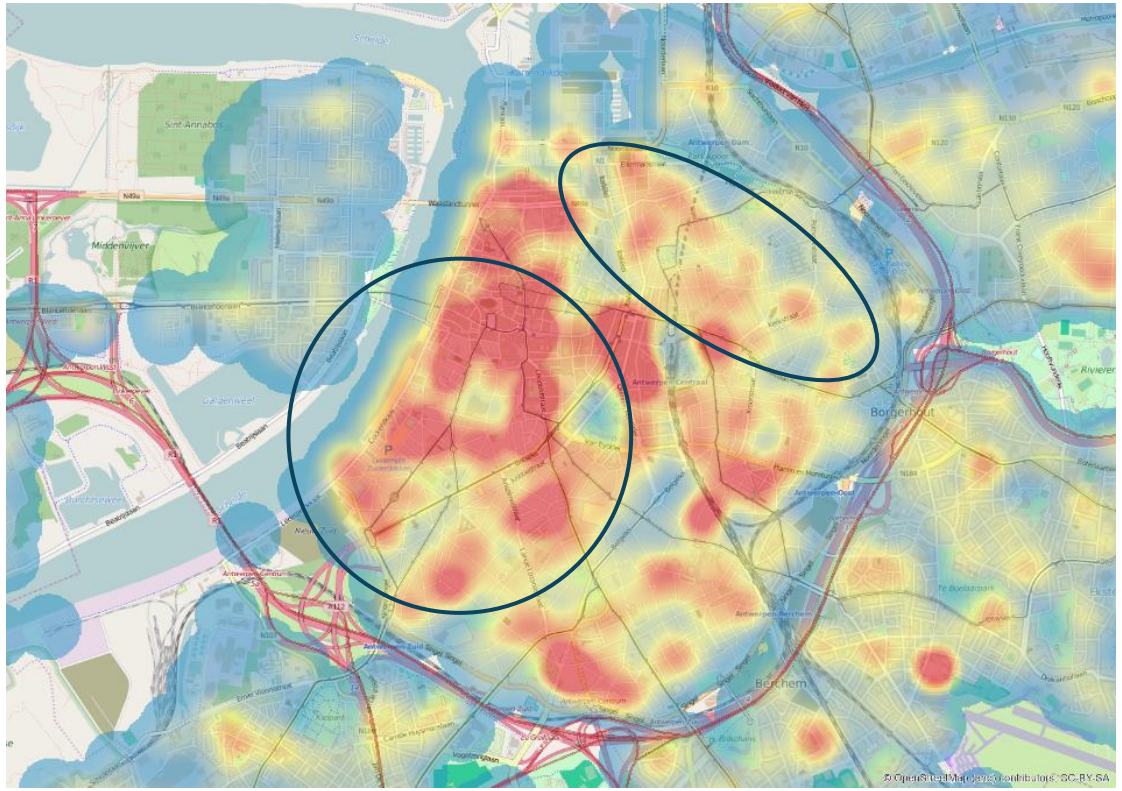


Carrier data

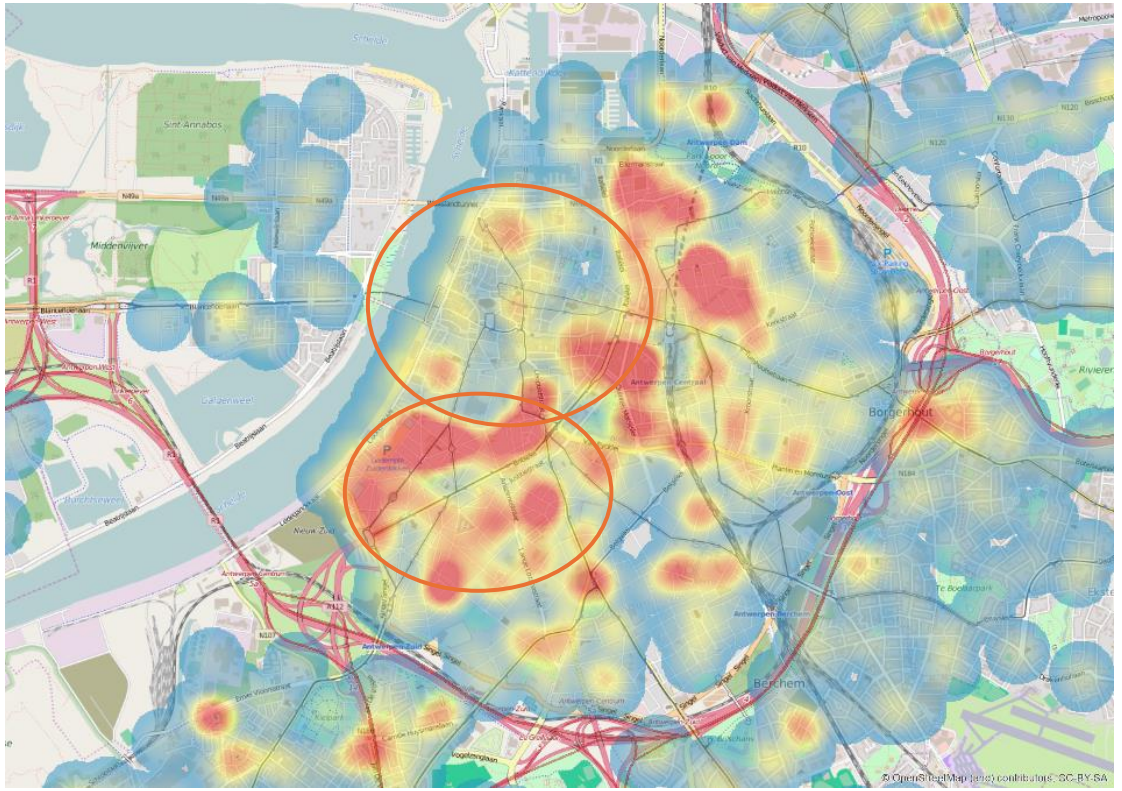
- Supply profile, i.e. the *operation*
- Carrier-perspective
- OBU data, carrier data, ANPR data, sensor…



1. Observe – behavior & needs



All deliveries



Failed deliveries

2. Plan & act – what?

For (undesired impacts exist):

If (clear urban freight objectives):

identify quick wins, high potentials, long term needs

else:

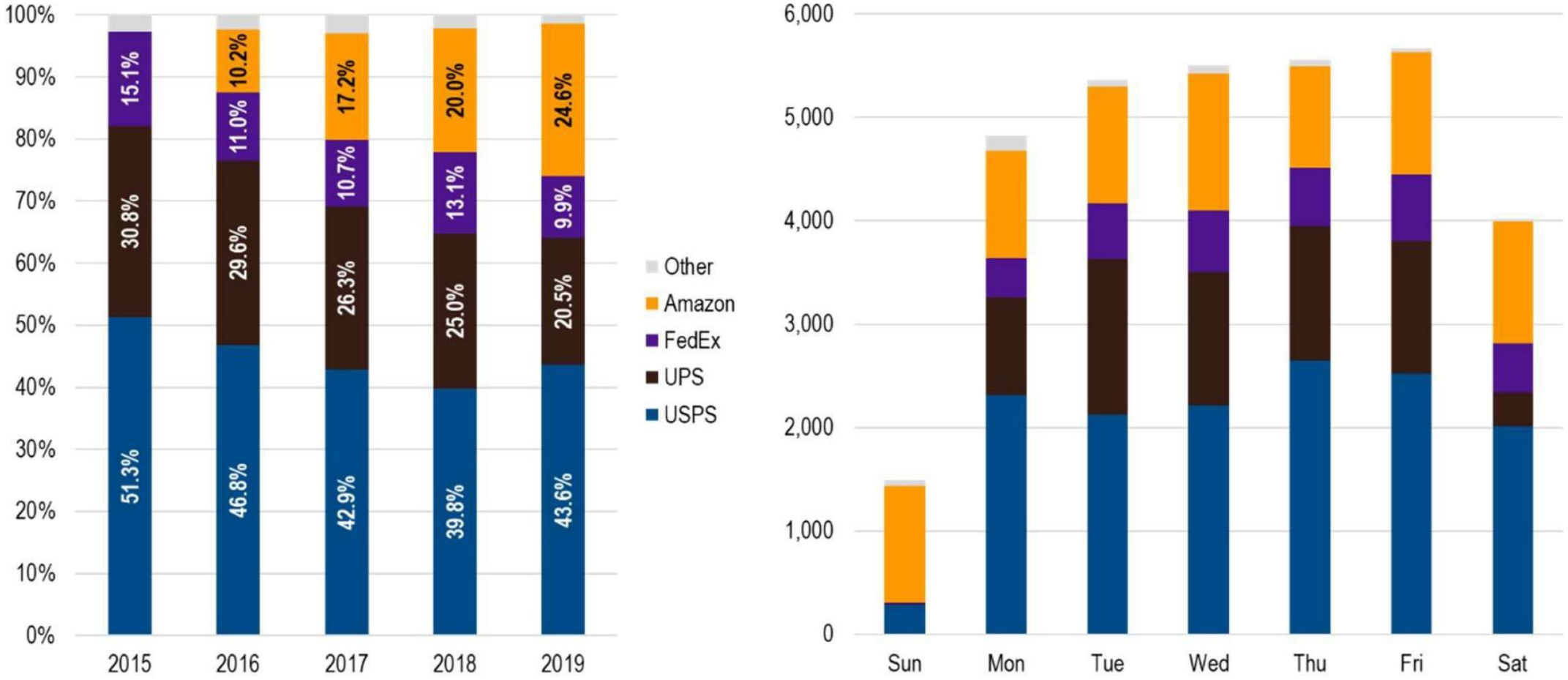
define policy objectives

➔ **Is *not* an easy process**

➔ Study

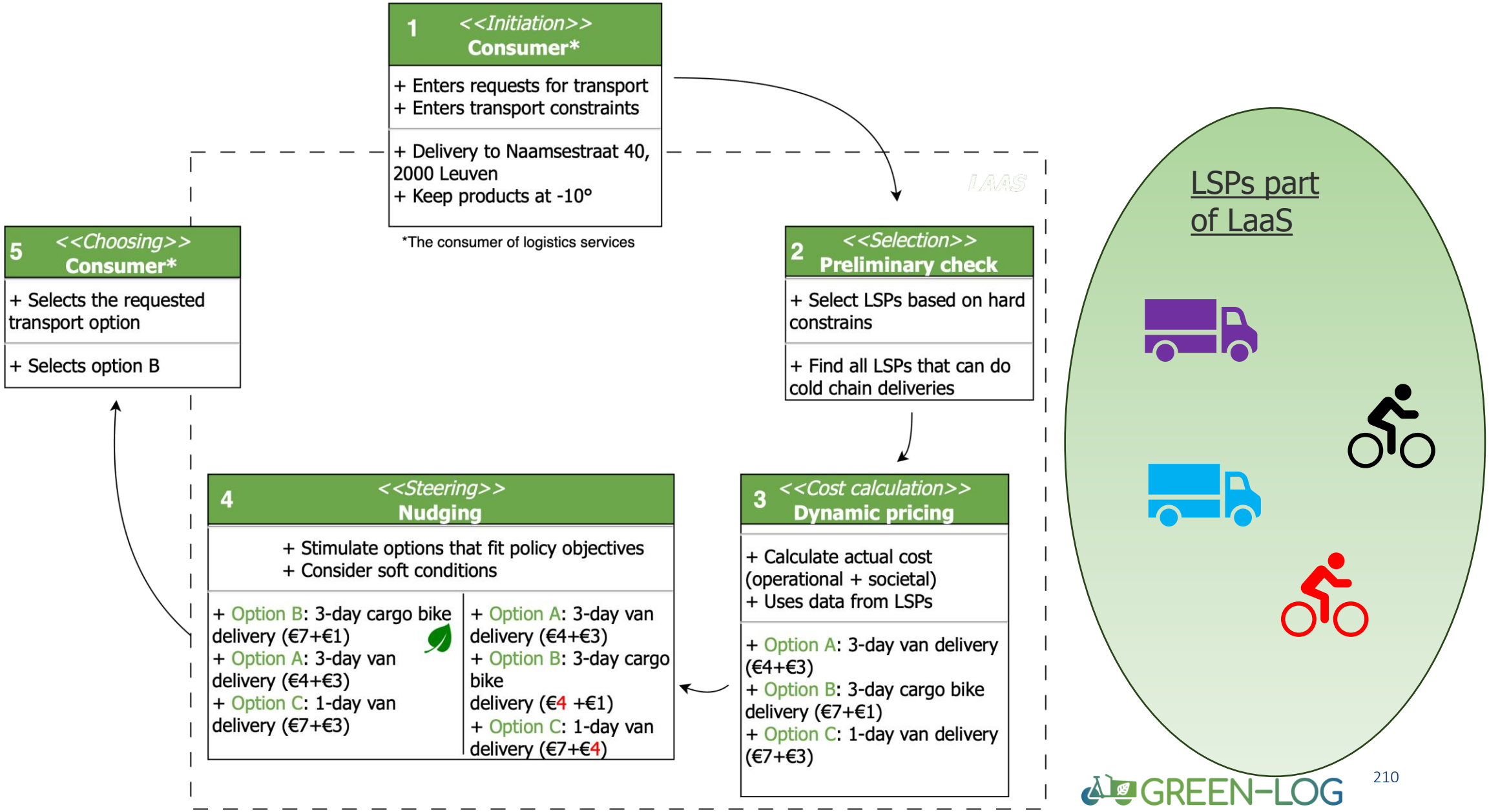
➔ Pilot

2. Plan & act – what?



Share of Parcel Deliveries by Carrier by Year and Number of Deliveries by Day of the Week, 2015–2019. (Rodgrigue, 2020)

2. Plan & act – what?



3. Evaluate – what and how?

- Turn policy objectives into freight KPIs
  - No truck in school zones
  - Minimum 80% loaded
  - XX% of trips by bike
  - Zero-emissions by 2030
  - …

- Keep it simple:
  - Clear message
  - Feasible data collection

3. Evaluate – what and how?

Impact Category	KPIs
1.Societal	1.1 Job opportunities created
	1.2 Improved quality of jobs created
	1.3 Reduced congestion
	1.4 Increased public awareness of sustainable urban delivery solutions
	1.5 Acceptance of sustainable urban delivery solutions
	1.6 Improved neighborhood life quality
	1.7 Increased safety
2. Environmental	2.1 Saved energy consumption
	2.2 Reduced CO2 emissions
	2.3 Reduction NOx emissions
	2.4 Reduced particulates
	2.5 Reduced noise pollution
	2.6 Land use (sq used of the facilities)
3. Economic	3.1 Increased benefits for local businesses
	3.2 Reduced cost of urban logistics services
	3.3 Improved service level of urban logistics
	3.4 Improved utilization of storage space of LSPs' (fill rate of the van)
	3.5 Increased zero-emission delivery modes of LSPs'
	3.6 Reduced urban delivery time
	3.7 Improved urban delivery reliability

Conclusions

- Understand the needs of all stakeholders and act upon them
- Establishment vs. carrier data
- Don’t lose the forest for the trees:
  - An increasing amount of data sources
    - ANPR
    - OBU
    - Counts
    - Carriers
    - Establishments
    - Simulation
    - Sensors
    - …

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Urban Logistics Innovation Day 2024

Session IV - Let's talk about data sharing for policy making and impact monitoring

Speaker

Joris BECKERS

Research Professor at the University of Antwerp

Panellists

Tom ANTONISSEN

Executive Director at European Parking Association

Johan LEVEQUE

Director Research and Development, La Poste

Anton RENARD

Mobility Consultant, City of Antwerp

Bart LANNOO

Innovation Director, BE-Mobile

Joris BECKERS

Research Professor at the University of Antwerp

Facilitated by Yanying LI,
Head of Programmes and Knowledge Management at ALICE

Urban Logistics Innovation Day 2024

Closing remarks

Hans SCHURMANS, Co-Chair of the Thematic Group on Urban Logistics at ALICE

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