MoLo Hubs

Interreg North Sea

Co-funded by the European Union

MoLo Hubs Aalborg

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City of Aalborg

venture NORDJYLLAND

HOMERUNNER

Project Partners

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MoLo Hubs

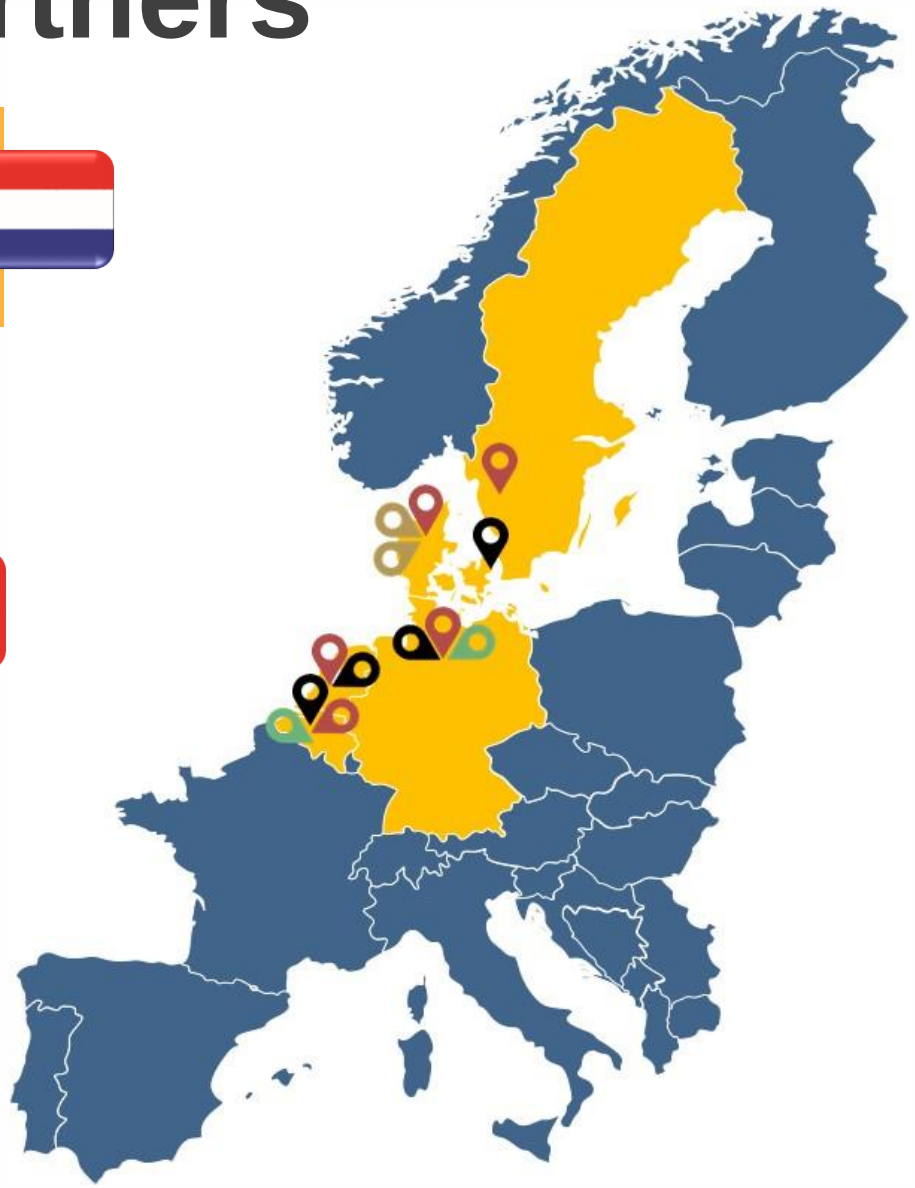
Host partner
Amsterdam Municipality

Knowledge partner
Amsterdam University

Host partner
Mechelen Kommune

Network partner
POLIS

Knowledge partner
Antwerp Universitet



- **5** Host partner (pilot)
- **4** Knowledge partner
- **2** Network partner
- **2** Implementation partner

Host partner
Borås Kommune

Host partner
Aalborg Kommune

Knowledge partner
Transition

Implementation partner
CoolRunner

House of Venture North Jutland

Host partner
Hamburg Renovation

Network partner
Logistics Initiative Hamburg

Knowledge partner
HiiCCE

The overall challenge

Today, 70% of the EU population is living in cities and urban areas. In 2050, 83% of this population will live in cities. In order to reach the European Green Deal target of reducing greenhouse gas emissions by 90 % by 2050, city logistics processes and services need to be re-thought.

MoLo Hubs goes beyond existing mobility hub projects. It aims to reduce urban traffic by initiating and prototypically implementing new and convenient logistics service offers at urban mobility hubs.

Five pilots will make an important contribution to reduce urban traffic, increase the attractiveness and functionality of urban mobility hubs and also give an insight into how user-centred logistics services can be designed.

Project Content & Goals

MoLo Hubs strongly focusses on the initiation and implementation of new logistics services integrated into mobility hubs, in order to reduce commercial traffic in urban areas induced by logistics operations and at the same time increase the functionalities and convenience of mobility hubs for users and through this increase their use and attractiveness.

Therefore, MoLo Hubs not only creates a shift of traffic to green and active modes of transport, but also new and innovative urban value chains.

MoLo Hubs defines itself as a "learning journey" along the implementation of the pilots. Some of the logistics services to be implemented are comparable, but involve different starting situations or local challenges, whose solutions can be benefits for all pilot regions or adapted in other ways.

Molo Hub Aalborg pilot

Current Situation

Municipality of Aalborg will facilitate the pilot from the unit Center for Green Transition (CfGT) together with the local waste disposal unit (WDU). CfGT comprise of climate planners responsible for the municipal Climate Action Plan and sociologists, anthropologists and communication experts responsible for citizen involvement and implementation of sustainable solutions.

Moreover, they have connected the municipal WDU with know how of fractions, sorting, recycling and waste logistics, relevant for the pilot use case conducted by the Municipality of Aalborg within MoLo Hubs.

Turn on the video for a short introduction to the pilot.

Waste plan oppotunities

The city offers a variety of buried containers near apartment buildings that can handle eight different fractions of waste.

The regional waste company, Nordværk, lacks a profitable solution in the city centre for textile waste and hazardous waste due to the issues of numerous apartments in the city centre and no spaces for collecting these two fractions of waste.

To accommodate this issue, we came up with the idea of combining the collection of textile waste and hazardous waste with the parcel boxes, utilising the logistics provider already delivering parcels to the city centre.

Possible Solutions

The Municipality of Aalborg, together with its partners, will pilot smart parcel lockers that can be used for distribution (e.g. parcel delivery) as well as waste management and recycling (e.g. packaging material, old batteries) in close proximity to users.

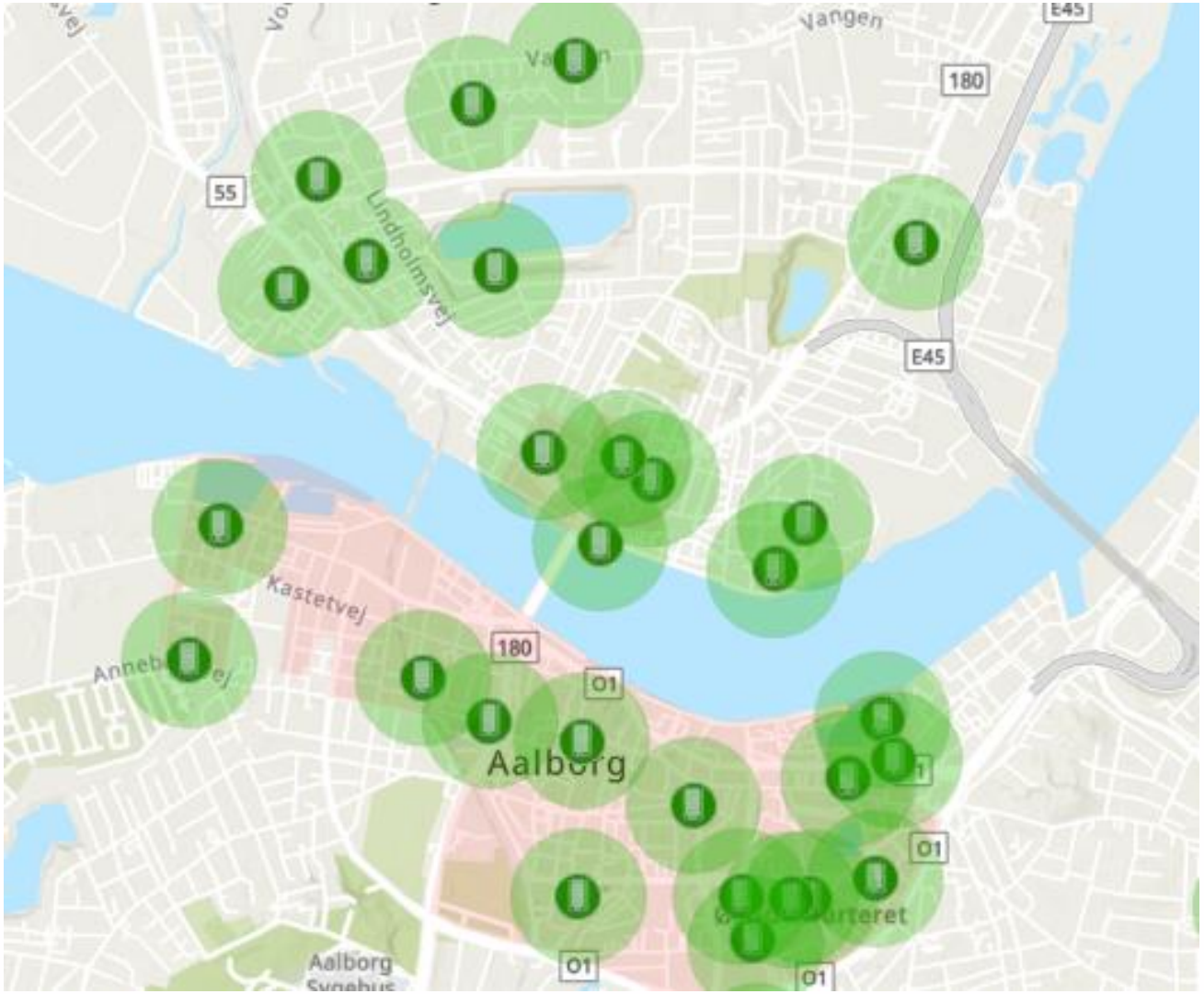
Additionally, they will also try to validate the thesis of higher utilization when establishing such services closer to users.

White-label
Agnostic in technology
Multi-usage
Easy to use
Web-based app
Always online
Solar-powered

Possible Solutions

Through this, empty runs of commercial traffic shall be reduced and the utilization and quality of recycling improved.

At the same time, the Municipality of Aalborg pilot adds a crucial social impact value to MoLo Hubs by involving persons with reduced functional abilities as operative staff, thereby improving labour opportunities for them – an initiative started together with the City of Aalborg in the FleXskrald project.



The logistic operation

DAO & Nordværk

Nordværk is a renovation company owned by six municipalities in northern Jutland. As the 4th largest renovation company, it services 400,000 citizens. Due to a new law, the municipalities have had to transfer renovation collection and recycling yard services to Nordværk. The law mandates that municipalities must privatize their renovation service functions, and one option is in a municipally owned company.

DAO is a logistic service operator that delivers parcels to individual consumers, e-commerce companies, and private businesses doing B2B and B2C. DAO makes their deliveries early in the morning, so as not to disturb the citizens. They also deliver to parcel shops.

Current tests

48 lockers are all operational throughout the city and can handle the following services:

- Hazardous waste
- Textile waste
- Library books
- Waste bag pick-up-spot for citizens

In progress

In the near future, lockers will also be able to handle other services such as:

- Parcels
- Reuse take-away packaging
- Lending of tools
- Pharmacy products
- Public procurement

Long-term financial viability of the hub

Key Partners of the Hub

- **Huset Venture** (Waste Collection)
- **Homerunner** (Software and Parcel Boxes)
- **Nordværk** (Waste Collection)
- **DAO/Burd Delivery** (Parcel Delivery)

Costs

- Maintenance (Pick Up)
- Software
- Teleware
- Service

Revenue

- Use Contract from DAO
- Contract of Use from Nordværk (per 1.5 years)
- Public Library Contract
- Other Potential Partners

Which eco-social benefits does the hub give?

Citizens can avoid individual trips to recycling yards and parcel shops, saving both time and fuel. This allows them to combine waste disposal and parcel pickup in one location, lowering their carbon footprints.

Logistic services (DAO) benefit by connecting parcel deliveries to a locker, instead of visiting each household. This shift reduces fuel expenses, meeting sustainability goals. Individual parcels to consumers' homes are returned to the central hub if they are not home, wasting both time and fuel. Instead, the parcel lockers will be used as a waiting station for the customers not home at the time of delivery. Revenue will be based on pay-per-use.

Nordværk gains efficiency by not having to conduct sporadic individual home pickups for hazardous and textile waste, based on requests from the citizens. Instead, the parcel lockers reduce the frequency of trips required, being more environmentally efficient as well as meeting new demands of waste fractions, potentially resulting in better waste sorting.

Challenges still ahead:

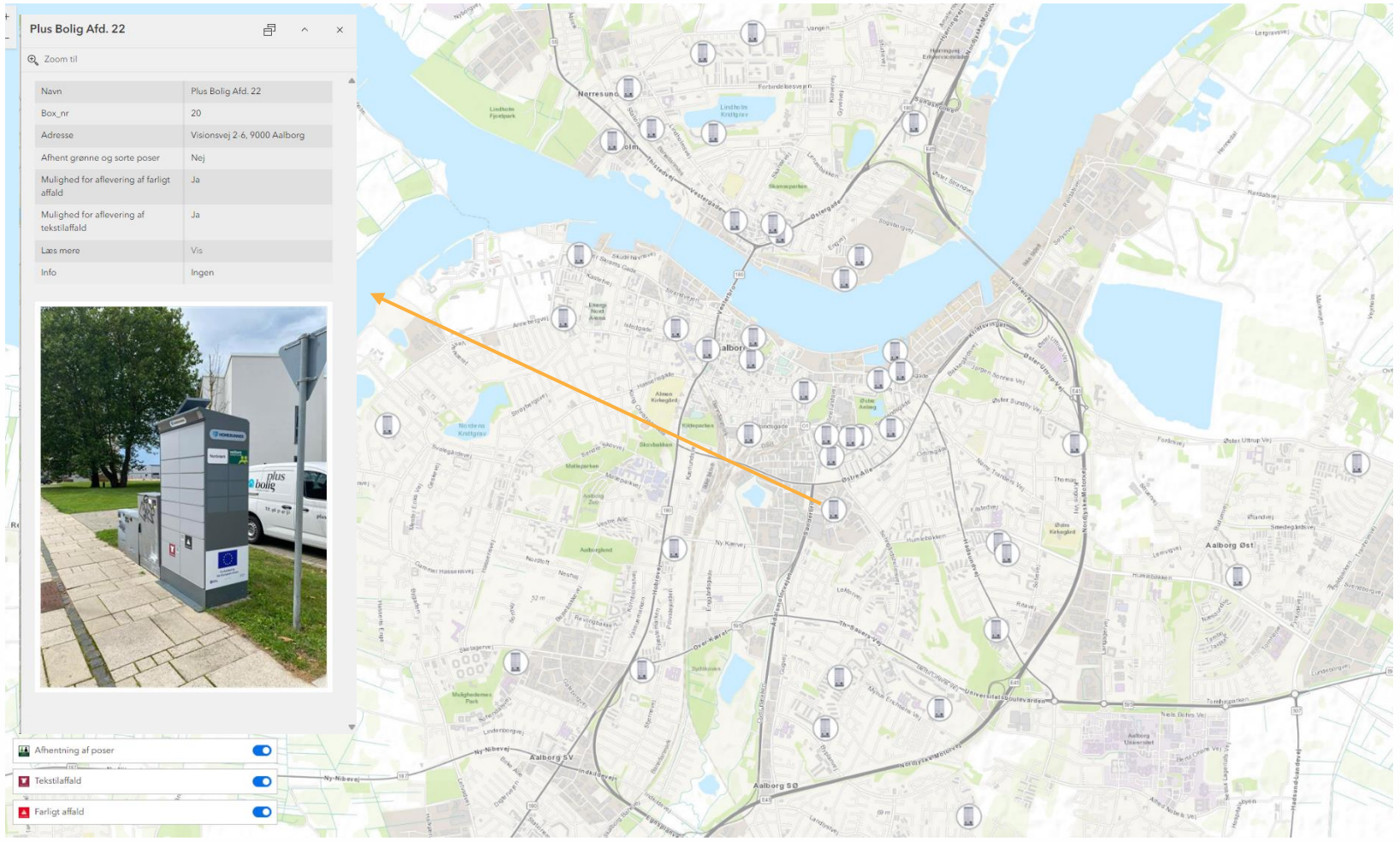
- Agreements with Logistics Operators
- Data Collection and Comparison with Historical Data
- Test of Capacity in the Box (Optimal Flow)
- Testing of Locations (Placement of Boxes)
- Network with Urban and Spatial Planners
- Map Business Cases for Services

Website – Map for citizens

Homerunner, which is the project's IT partner, has developed a mobile-based system that allows citizens and service personnel to open and close the lockers.

Additionally, citizens can access a website that shows the location of individual lockers and the services they offer.

Here you can see all the boxes and their services: MOLO



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Amsterdam University of Applied Sciences

BORÅS STAD

Gemeente Amsterdam

HiCE

HOMERUNNER

Logistics Initiative Hamburg

MECHELEN

POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

Transition

STADTREINIGUNG.HAMBURG

University of Antwerp
TPR | Department of Transport and Regional Economics

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