

UNCHAIN

= Urban logistics and planning: AntiCipating urban freight generAtion and demand including dIGitalisation of urbaN freight



Figure 1: The consortium of UNCHAIN in Berlin

PROJECT

The [UNCHAIN project](#), funded under [Horizon Europe](#), aims to revolutionize urban logistics and space management by integrating data from various sources to create 12 city services that address congestion, safety, and environmental issues. It focuses on breaking down data silos and promoting public-private data exchange across a unified European mobility data space, enabling more informed decisions and greater efficiency.

Through collaboration between public authorities and logistics stakeholders, UNCHAIN will introduce a range of services, including decision support for land use strategy, Sustainable Urban Logistics Plans (SULPs), and Urban Vehicle Access Regulations (UVARs). These data-driven solutions will optimize the planning and operation of Urban Consolidation Centres (UCCs) and pick-up and drop-off zones, paving the way for sustainable urban logistics.

With UNCHAIN's innovative services, cities will anticipate the impacts of policy measures, reduce freight transport's impact on the urban fabric, and work towards climate-neutral and smart cities. For logistics operators, alignment with sustainability goals will unlock mutually beneficial cooperation schemes, ensuring long-term collaboration and sustainable freight transport policies.

Ten European cities (including Madrid, Berlin and Florence) will serve as living labs and followers, supporting the early adoption of UNCHAIN's results. Major players in the logistics industry, such as DHL and UPS, will contribute to the project's large-scale impact and feasibility.

UNCHAIN is breaking the chains of traditional urban logistics, forging a path towards a more sustainable and efficient future. By harnessing the power of data, technology, and collaboration, UNCHAIN is unlocking the potential for change and creating a brighter, greener world for all.

CITY OF MECHELEN

Mechelen is a follower city within the UNCHAIN-project. These cities work alongside the primary demonstration sites to maximize the geographical coverage and replicability of solutions across Europe.

Mechelen is a medium-sized typical European city in the province of Antwerp, with a population of +/- 90.000 inhabitants. Located on the major urban and industrial axis of Brussels-Antwerp (+/- 25km from each city), the city is popular with residents and tourists alike. The city is constantly growing

and, if current trends continue, the population will grow with about 30.000 inhabitants in the next 15 years. This naturally will result in more movements in the city, both of people and goods.

By cooperating in the UNCHAIN project, the city therefore aims at addressing its current and future challenges in urban freight distribution:

1. Reduction in CO2 emissions,
2. Reduction in number of vehicles,
3. Reduction in number of driven kilometres,
4. Improvement of air quality,
5. Maintaining a balance between accessibility and liveability.

The city already has several UVARs, situated in the inner city due to city ramparts with narrow cobblestone streets. Deliveries in this area are restricted to specific timeframes with 4 different regimes. Mechelen has a UVAR since 2011 with the installation of a circulation plan, timeframes for deliveries, car free zones and a prohibition on heavy goods vehicles larger than 10 tons and longer than 11 meters.

Mechelen aims to test 2 solutions within UNCHAIN:

1. Smart management of shared transport facilities for goods

With this solution Mechelen aims to test efficient management of shared transport facilities for goods. This solution allows logistic operators to use a shared space (such as Urban Distribution Centres UDCs/UCCs) while optimising the use of the available space.

The aim is to apply this solution within the construction logistics sector, an area that has not yet been extensively studied but is known to have a significant impact on the city. Implementing this solution will also provide an opportunity to collect preliminary data on this logistical flow, enabling a more comprehensive, data-driven understanding of the broader context.

2. Efficient policymaking on urban freight logistics

This solution will provide an analysis of which specific or complimentary policies to UVAR are most suitable to improve the efficiency of urban consolidation and distribution centres. Mechelen aims as well to digitalise the UVAR and regulations.

There is a high interest in studying how UVAR can support the creation of necessary value for a UDC to reach higher sustainability and efficiency targets as well as gain knowledge of the enforcement alternatives, their potential impact and the guidelines for its implementation.

COLLABORATION ON EUROPEAN LEVEL

Throughout our involvement in over 28 European projects, we look to share knowledge, co-create solutions, and act as a testbed for innovation. We've noticed that cities of all sizes—small, medium, and large—face similar challenges in achieving sustainability. This common ground highlights the importance of pilot projects to explore and refine new solutions together.

While learning from each other is valuable, it's essential to recognize that each city has its own unique context, processes, and focus areas. Therefore, solutions developed within these projects should be flexible enough to adapt to each city's specific needs and circumstances.