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Project Acronym: GREEN-LOG
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Project Full Title: Cooperative and Interconnected Green delivery solutions towards an era of optimized zero emission last-mile Logistics



E-COURSE

GREEN-LOG e-learning course: Delivering zero-emission last-mile logistics

Overview

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.

1 General Description

The e-course “**Delivering zero-emission last-mile logistics**” provides an overview of the rapidly evolving landscape of sustainable urban logistics, drawing directly on the insights, digital tools, and real-world pilots of the GREEN-LOG project. Students are introduced to the current European policy framework shaping urban logistics, particularly focusing on on-demand and last-mile logistics.

Building on the results of GREEN-LOG Living Labs, the e-course places strong emphasis on experimentation and applied learning. Students will gain first-hand knowledge on how cities and logistics service providers have tested new solutions—from shared micro-consolidation centres and multimodal delivery models to AI-enhanced planning tools, and autonomous last-mile vehicles.

By unpacking these real-world pilots, the e-course highlights both the opportunities and the complexities of deploying sustainable logistics innovations in diverse urban contexts. This practical lens ensures that students not only understand the theory but also see how it translates into operational change.

The e-course will also showcase demonstrations of different open-source modelling tools, useful both for city representatives and logistics service providers looking to improve the efficiency and sustainability of last-mile delivery operations in their cities and operations.

The target audience of the e-course is city and regional authorities, logistics operators, policy-makers, university students and researchers.

1.1 Content and workload

In addition to free readings and assignments, this e-learning course consists of video lectures accompanied by slide sets. Webinars will be organised to complement the video lectures, allowing you to interact with lecturers and delve deeper into the subjects covered.

Timeline: 4 May – 12 June 2026

1.2 Objectives

- Takes stock of the results of the GREEN-LOG Living Labs to deliver open-source packages related to GREEN-LOG Sustainable Solutions for the Last-Mile. A specific focus is on tools for assessing predictive demand and load demand information, to match supply and demand for the different players involved (cities, logistic service providers, and customers), and outputs for nowcasting and forecasting, among others,
- Offers a comprehensive overview of the current urban freight policy landscape, with a focus on on-demand and last-mile logistics,
- Facilitates and enables the exchange of knowledge and expertise between experts (city authorities, logistics service providers, etc.)
- Improves the capabilities and skills of local authorities and logistics service providers on open-source tools and modelling for urban logistics planning (i.e. demand prediction and optimisation modules).

1.3 Target

Target audiences: City and regional authorities, logistics operators, policy-makers, university students and researchers.

Platform: The course will be hosted at the [CIVITAS Learning Centre](#).

Roll-out of lectures:

- **Unit 1:** lectures published on 4 May
- **Unit 2:**
 - 1st round published on 11 May
 - 2nd round published on 18 May
 - 3rd round published on 26 May
- **Unit 3:**
 - 1st round published on 1 June
 - 2nd round published on 8 June

Technical issues?

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2 E-Course Content

Unit 1: Planning for sustainable urban logistics, while fostering innovation, led by POLIS

Scope: The unit provides a brief introduction to urban freight, focusing on on-demand and last-mile logistics, through current EU-level policy guidelines, and best practices on the implementation of Sustainable Urban Logistics Plans (SULP).

The unit includes three lectures that focus on the relevant policy recommendations produced by the [European Commission's Expert Group on Urban Mobility](#) of the European Commission (subgroup 4, working on urban logistics). This subgroup is coordinated by ALICE, POLIS and ACEA, and brings together twelve national ministries of EU member states, seven regional governments and city authorities, and ten associations/organisations.

They have drafted three documents aimed at developing a set of recommendations for taking actions to advance the implementation of the Urban Mobility Framework. These will be presented in three corresponding lectures, focusing on:

- Sustainable Urban Logistics Plans,
- Data sharing for zero-emission urban logistics,
- Accelerating the Deployment of Innovative Sustainable Solutions: practical tips for cities and industry.

The lecture on Sustainable Urban Logistics Plans related recommendations is complemented by a practical lecture on the implementation of Bologna's own SULP, given by Luca Bellinato, a city official.

Runtime: 4 – 8 May

1. *Devising future-proof Sustainable urban logistics plans (SULP)*, **Cláudia Ribeiro-Vervaeck, POLIS**
2. *Data Sharing for Zero Emission Urban Logistics*, **Raffaele Vergnani, POLIS**
3. *From theory to practice: Bologna's SULP in action*, **Luca Bellinato, City of Bologna, URBANE Project**
4. *Accelerating the Deployment of Innovative Sustainable Solutions: practical tips of cities and industry*, **Yanying Li, ALICE ETP**

Unit 2: Living Labs as innovation hubs for urban logistics

Scope: Living Labs (LLs) serve as dynamic environments where new technologies are tested in a real-world context, offering valuable insights into feasibility, scalability, and impact. In this unit you will learn how to set up an Urban Living Lab to optimise urban logistics solutions before they are implemented more widely based on best practices and learnings from GREEN-LOG LLs. Some of the innovations that have tested include sharing resources by different Logistics Service Providers (LSPs), matching supply and demand in

a marketplace, adding AI to improve planning and operation and introducing autonomous vehicles.

The content of the modules aims to provide insights about the complexity of the ecosystem, with the views of different stakeholders (government and policy makers, private and industry partners, citizens and academia).

Webinar with contributions from the sister project Living Labs, with open questions from the audience. People registered for the e-course can attend the webinar, but it will also be open to a wider audience as a stand-alone webinar.

Runtime: 11 – 29 May

1. *Setting up an Urban Living Lab: Best practices and procedures*, **Vaïke Fors, Halmstad University**
2. *E-cargo bike logistics innovations & mobile delivery hubs, in Oxfordshire*, **Graham Stanley, Oxfordshire County Council**
3. *Multimodal Parcel Delivery: Integrating public transport into last-mile logistics in Barcelona - successes, barriers and trade-offs*, **Carles Miralpeix, FGC**
4. *Introducing Last-Mile Logistics-as-a-Service*, **Joris Beckers, University of Antwerp**
5. *LaaS in Flanders: the Ghent experience*, **Eveline Van Hooijdonk, City of Ghent**
6. *LaaS in Flanders: the Leuven experience*, **Marij Lambert, City of Leuven**
7. *Shared micro-consolidation centre, lockers and white label fleet: the Athens Living Lab*, **Panagiotis Kanellopoulos, ACS**
8. *Next-generation last-mile delivery integrating delivery robots and cargo bikes*, **Gabriele Maddalena, YAPE**

Unit 3: Solutions & Services for optimised sustainable last-mile logistics

Scope: The scope of this unit is to present the integrated technological solutions of the project, which enable the realisation of various green last-mile logistics. These include:

- An Augmented Intelligence Modelling Platform enables the assessment of various logistics services based on forecasted demands and customisable fleet types and sizes. The platform allows stakeholders to specify parcel demands, and an optimisation service allocates the demand to a diverse logistics fleet, facilitating the evaluation of logistics services in terms of efficiency and network impact.

- A last-mile digital control tower equipped with a mobile application that facilitates various logistics operations, including routing, scheduling, and defining operational constraints, and short-term prediction and nowcasting of supply and demand.
- A Logistics-as-a-Service marketplace; a unified platform that enables smooth interaction and service delivery among various stakeholders. These include logistics service providers and end-users, such as local shop owners, social organisations, and consumers. The LaaS marketplace aims to enhance logistics and supply chain management through innovative, user-friendly services while also optimising supply and demand. In addition to presenting the aforementioned technologies, this unit also demonstrates the solutions through practical applications

Runtime: 1 – 12 June

1. *Augmented Intelligence Modelling Platform: demonstration video*, **Montserrat Anglès, MOSAIC**
2. *Practical demonstration of the Augmented Intelligence Modelling Tool, using LL (Oxfordshire) outcomes as examples*, **Graham Stanley, OCC**
3. *Last-Mile Digital Control Tower: Bring your Own Device (BYOD), Dynamic routing, nowcasting and forecasting components*, **Amalia Bozinaki, FI and Vasilis Maratos, NETCOMPANY**
4. *Logistics-as-a-Service Marketplace: demonstration video of the platform*, **Amalia Bozinaki, Frontier Innovations**
5. *Practical demonstration of the LaaS, using LL (Flanders use cases) outcomes as examples*, **Steve Corens, VIL**