DANUBE REGION strategy
Mobility | Rail-Road-Air

THE DANUBE REGION TRANSPORT DAYS 2024:
"Boosting sustainable transport and connectivity"

Strategic and Operational Solutions for Urban Logistics Challenges

(MED-COLOURS, GRETA, TRACE)

assoc. prof. Tomislav Letnik, PhD

University of Maribor - FGPA

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Urban logistics challenges

How many of you are dealing with city logistics (urban freight transport)?

Why bother?

- **City logistics is the most inefficient part of supply chain!**

This is called a **"last-mile problem"** and it arises because of the **difficulty of reaching end users**, especially in busy **urban areas** (congestion and safety concerns).

Urban logistics challenges

The other aspect - ENVIRONMENT

- **urban mobility** is responsible for about **23% of EU's GHG emissions** from transport (EC staff working document “EU Urban Mobility state of play”)

- **urban freight** transport accounts for up to **25% of CO2 emissions** and **30-50% of nitrogen oxide and fine particles** from transport in cities (FORESIGHT Climate & Energy, 2019).

Strategic goals and measures

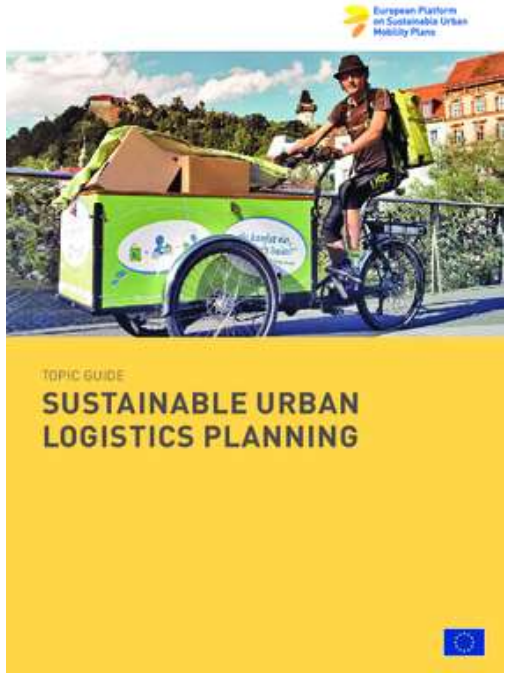
POLICY GOALS

- **Essentially CO2-free city logistics** in bigger urban centres by **2030** (White paper / 2011)
- reducing net greenhouse gas emissions by **at least 55% by 2030**, compared to 1990 levels
- **90% reduction** in transport-related greenhouse gas emissions **by 2050**

Strategic goals and measures

INNOVATIVE SOLUTIONS/PLANNING is needed

- **Low Emission Zones, Time Windows, Vehicle Weight** and/or Size **Restrictions**, Congestion charging **are not enough**.
- Even **where SULPs exist** (only 13% of the 125 EU sampled cities), **they are rarely put into practice**.
- They become **soon obsolete**, **not able to adapt** to changing technologies, regulations or habits (EC, DG Move, 2021).



Urban logistics solutions

- **Three ongoing projects:**

Interreg Euro-MED Co-funded by the European Union

MED COLOURS

https://medcolours.interreg-euro-med.eu/

Interreg CENTRAL EUROPE Co-funded by the European Union

GRETA

https://www.interreg-central.eu/projects/greta/

TRACE inTegration & haRmonizAtion of logistiCs opErations

https://trace-horizon.eu/

Project MED COLOURS

Interreg Euro-MED — Co-funded by the European Union

MED COLOURS

EU Project co-funded by the Interreg Euro-MED Programme

Objective:
Improving urban logistics and **planning** for decarbonized, smart cities.

Approach:
- **Development** of Sustainable Urban Logistics Plans (**SULP**s).
- **Resilient**, **sustainable**, and innovation-driven solutions for Functional Urban Areas (**FUA**s).
- Reducing negative impacts of freight and logistics activities.

Key Cities: **Livorno** (IT), **Cesena** (IT), **Thessaloniki** (GRE), **Koper** (SI), **Lisbon** (PT), **Lyon** (F).

Total budget

€ 2.667.400,00

Project duration

33 months

Interreg Funds

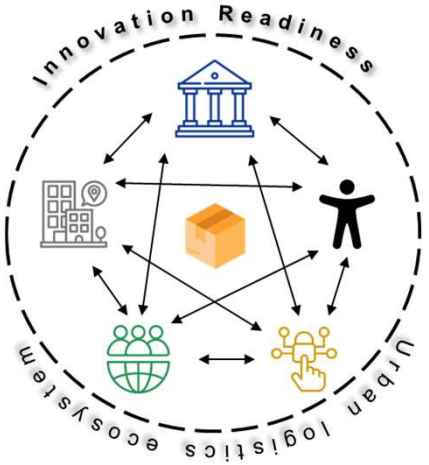
€ 2.133.902,00

Project MED COLOURS

Interreg Euro-MED
Co-funded by the European Union
MED COLOURS

Ecosystem Approach to Urban Mobility

- urban mobility is **complex interplay** of infrastructure, policies, technology, behavior, and environmental impact.



Key Benefits:

- **Multidimensionality -** Urban mobility involves technological, social, economic, and environmental dimensions.
- **Interdependencies -** Public transit, private vehicles, and cycling infrastructure are interconnected.
- **Behavior Change -** Human behavior is crucial to effective solutions.
- **Innovation & Collaboration:** Collaboration among governments, businesses, researchers, and citizens drives innovation.

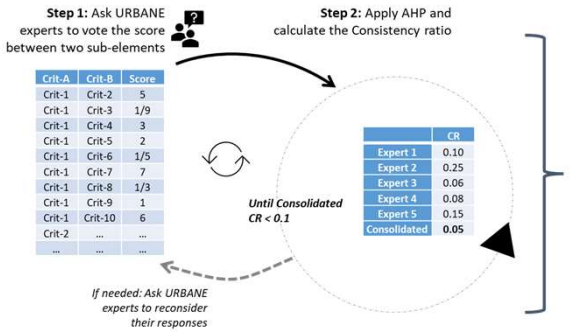
Project MED COLOURS

Interreg Euro-MED — Co-funded by the European Union

MED COLOURS

Urban Logistics self-assessment tool

- Define the elements and the sub-elements of an Innovative Urban Logistics ecosystem
- Define the weight of the different elements and sub-elements based on expert opinion through AHP
- Develop a survey which consists of 22 qualitative questions with a 5-point descriptive scale



Element	No of Questions
Smart Governance	8
Smart & Innovative Resources & Infrastructure	6
Smart Actors	3
Smart & Easily Accessible City Logistics Networks	2
Safety & Security & Quality	3

Example

Does the city have strategic, **long-term plans** for sustainable urban logistics (e.g. SULP) to meet the visions, involving stakeholder co-creation?

A. No Planning: No dedicated urban logistics planning.

B. Plan Only: Plan for urban logistics exists, which considers the general vision of the city but no implementation yet.

C. Developing & Implementing: SULP was developed and aligned with the quantified vision of the city which co-creation of stakeholders. It is partially implemented, and further development is ongoing.

Project MED COLOURS

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MED COLOURS

Expected outcome

Objective:
Identify personalized city problems towards the successful implementation of SULP

Input:
- Results from Innovation Readiness UL tool
- SUMP/SULP assessment

Output:
- Development of **SULP** for cities
- Update **SULP guidelines** specialized for Mediterranean region
- **Pilot testing** of innovative solutions

Suggestions for updating the SUMP process

1. Add a new step
2. Use a tool for implementing a step in another way
3. Provide guidance and paradigms, best practices etc. in existing steps
4. Enhance an existing step to enrich its content

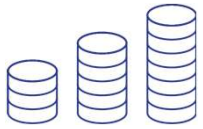
Project GRETA

EU Project co-funded by the Interreg CE Programme

Objective:
Greening Regional fReight Transport in fuAs

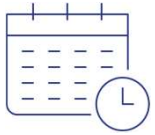
Approach:
- **Piloting** sustainability for a better future
- Empowering sustainable freight transport through **knowledge sharing** and responsible **use of public space**.
- Together towards sustainable freight: **Quadruple Helix** Framework for collaborative solutions

Key Cities: **Regio Emilia** (IT), **Maribor** (SI), **Poznan** (PL), **Verona** (IT), **Budapest** (HU).



Total budget

€ 2.667.400,00



Project duration

33 months

Interreg Funds

€ 2.133.902,00

Challenges, problems and restrictions

Typical European FUA

Maribor, Reggio Emilia, Verona, Budapest, Poznan, and Berlin Brandenburg area, face challenges of concentratedservices in city centers, lack of inclusion of peripheral areas in decision-making, growing population, and insufficient public space.

Neglected from PA

Urban logistics has been ignored by authorities until recently, resulting in the developmentof Sustainable Urban Logistics Plans (SULP).

Zero-Emission Vehicles

Lack of use of green zero-emission (ZE) last mile vehicles such as light electric vehicles, cargo bikes.

GRETA

Pollution

Last mile delivery directly responsible for negative impacts, with global supply chain of parcels distribution doubling in volume during Covid-19 crisis, generating inefficiencies in peripheral areas.

Traffic conflict

Conflicts between freight and passenger vehicles, especially in public spaces.

Negative impacts

These issues impact city liveability and business productivity, worsened by EU policies like the New Green Deal and Urban Mobility Package, and rising energy costs. Innovation, digitalization, and emission reduction are needed in EU FUAs.

Postponed SULP implementation

COVID-19 disrupted the implementation of SULP. Now, we must apply the identified measures in a drastically changed business landscape, with a surge in e-commerce and limited resources

Curb side management

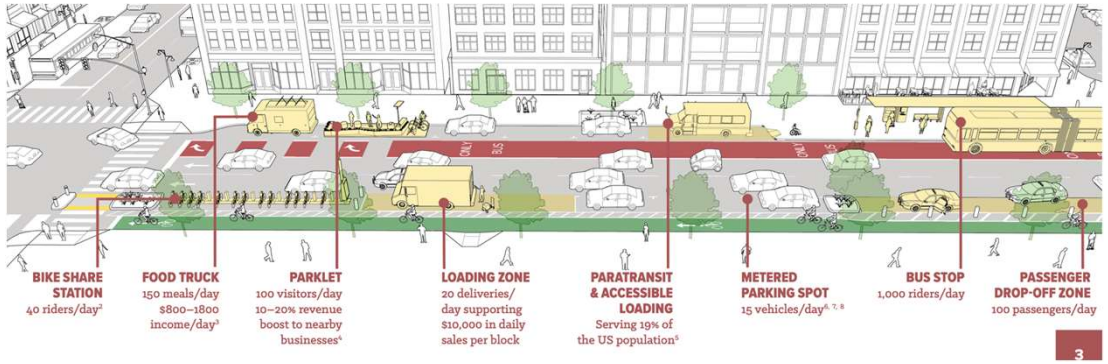
Lack of knowledge and strategies for flexible and shared use of curb and public/private space.

Interreg CENTRAL EUROPE
Co-funded by the European Union
GRETA

Project GRETA

CURB SIDE MANAGEMENT

Focuses on **managing sidewalk** activities, **parking spaces**, and transport **stops**.



Benefits:

- Reduces **traffic congestion**.
- Improves **urban goods distribution** by supporting efficient delivery operations.

Key Strategies:

- Defining **parking zones (loading bays)** and time limits.
- Using advanced technologies for **traffic monitoring** and smart parking.

Project GRETA

Interreg CENTRAL EUROPE — Co-funded by the European Union — GRETA

TRANSSHIPMENT (MICRO) HUBS + ZERO EMISSION DELIVERY

Focuses on creating **localized hubs** for efficient, zero-emission last-mile deliveries.

Benefits:

- Reduces **urban congestion** by centralizing logistics activities.
- Promotes environmental sustainability + **enables consolidation**.

Key Strategies:

- Establishing **transshipment points** near city centers.
- Deploying **various** zero emission **vehicles** for last-mile delivery.

Reggio Emilia (IT)

- Establishment of an open microhub near the city center
- E-cargo bikes used to serve shops in the Low Emission Zone (LEZ)
- In line with the Sustainable Urban Mobility Plan (SUMP)
- jointly developed by MoM and CoP
- Responsible: Reggio Emilia

Maribor (SI)

- Testing of a micro consolidation center with zero-emission (ZE) vehicles
- Aimed at sustainable and flexible last mile delivery
- Aligned with the Sustainable Urban Mobility Plan (SUMP) and Sustainable Urban Logistics Plan (SULP)
- Jointly developed by ZAI, CRE, and UM
- Municipality of Maribor takes the lead in the pilot action.

Poznan (PL)

- Testing of a mobile transhipment hub for last mile delivery
- Supported by Information and Communication Technology (ICT)
- Aligned with the Sustainable Urban Mobility Plan (SUMP)
- Jointly developed by the CoP, CRE, and L-PIT
- City of Poznan takes the lead in the pilot action (Resp. CoP).

Verona (IT)

- Testing of a curb management system to coordinate the flow of freight
- Definition of regulations and new system for accessibility
- Jointly developed with BKK (Budapest Transport Centre), CRE (City of Reggio Emilia), and Municipality of Verona (associated partner)
- ZAI takes the lead in the pilot action (Resp. ZAI).

Budapest (HU)

- Testing of a curb management framework to optimize the use of space
- Reallocation of public spaces and providing a complex solution for differentiated usage of roads
- Jointly developed with CRE (City of Reggio Emilia) and Verona (Municipality of Verona, associated partner)
- BKK (Budapest Transport Centre) takes the lead in the pilot action (Resp. BKK).

Project TRACE

TRACE
inTegration & haRmonizAtion of logistiCs opErations

EU Project co-funded by the HORIZON EUROPE

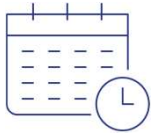
Objective:
Towards the **integration and harmonization** of logistics operations

Approach:
- Support **synchro-modal logistics** to optimize shared operations in terms of costs, emissions, time, and fuel.
- Implement **AI-driven practices** and **blockchain** technology to enhance trust, security, and automation.
- Establish **specialized infrastructure** to improve transport productivity and efficiency.

Key Cities: **Ljubljana** (SI), **Athens** (GRE), **Modena** (IT).

Total budget

€ 9.531.486,25



Project duration

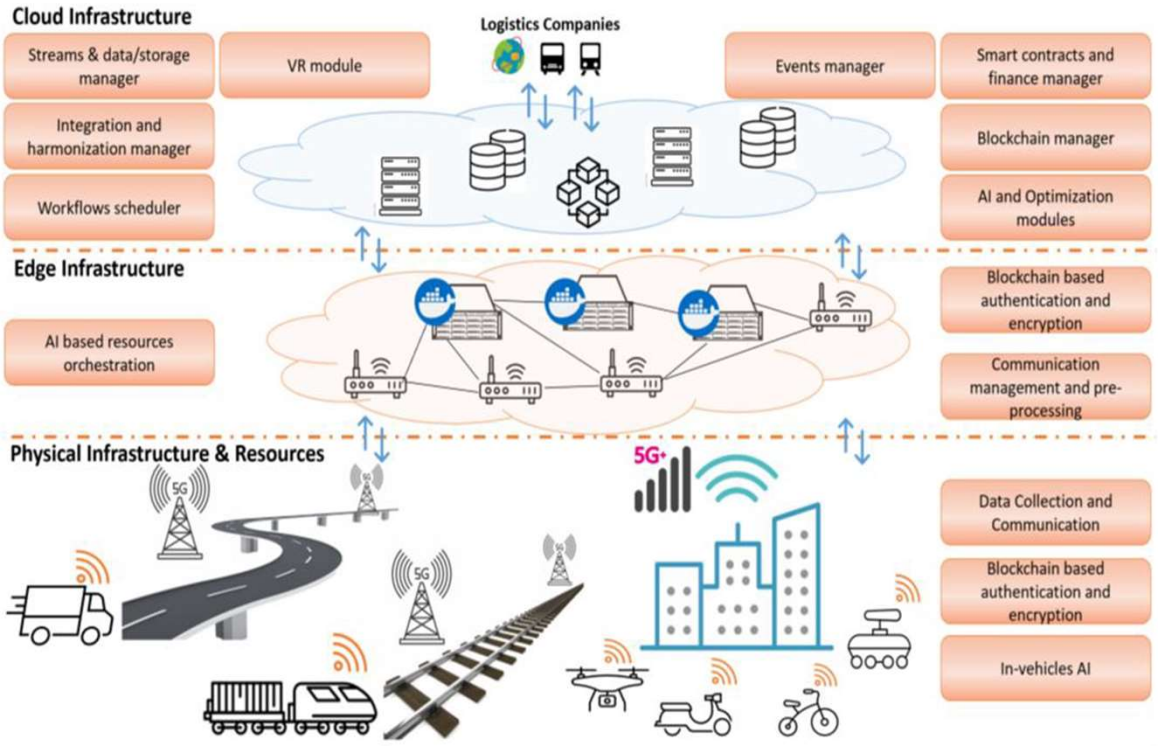
36 months

Grant

€ 7.743.673,25

Project TRACE

Platform:

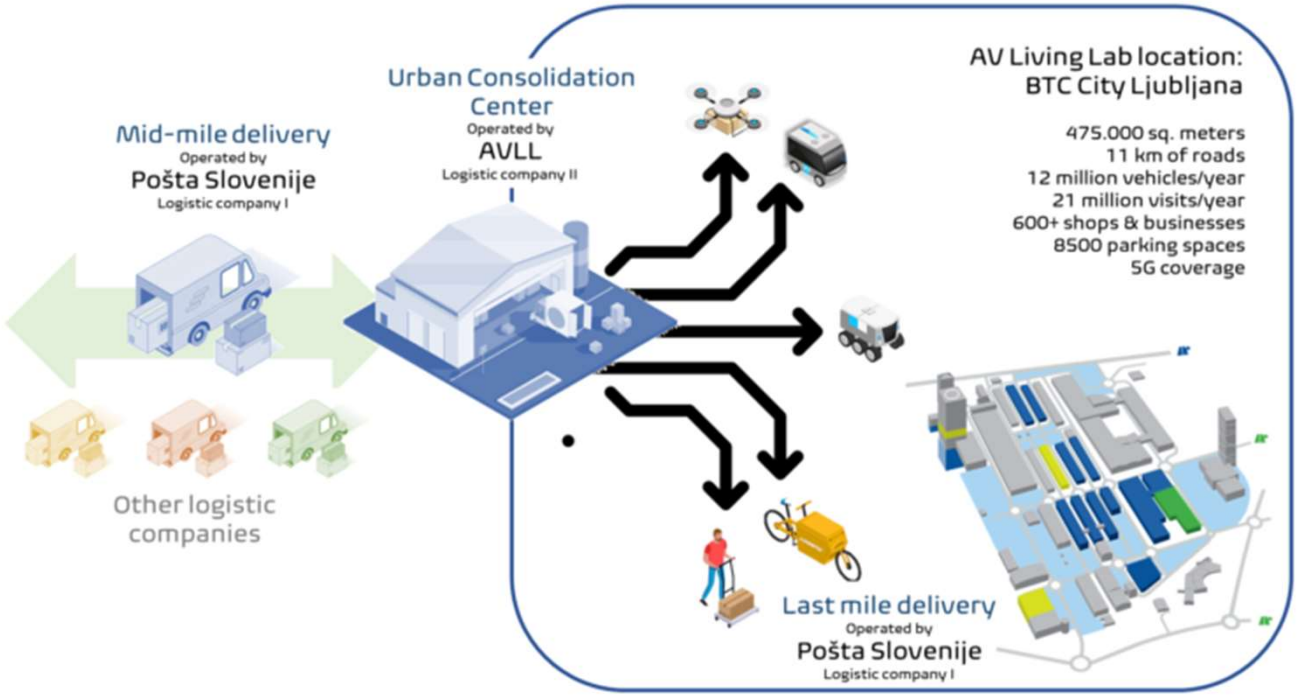


TRACE designs & implements a **smart new integrated platform** that enables stakeholders to **optimize shared logistic operations** in terms of costs, emissions, time & fuel requirements.

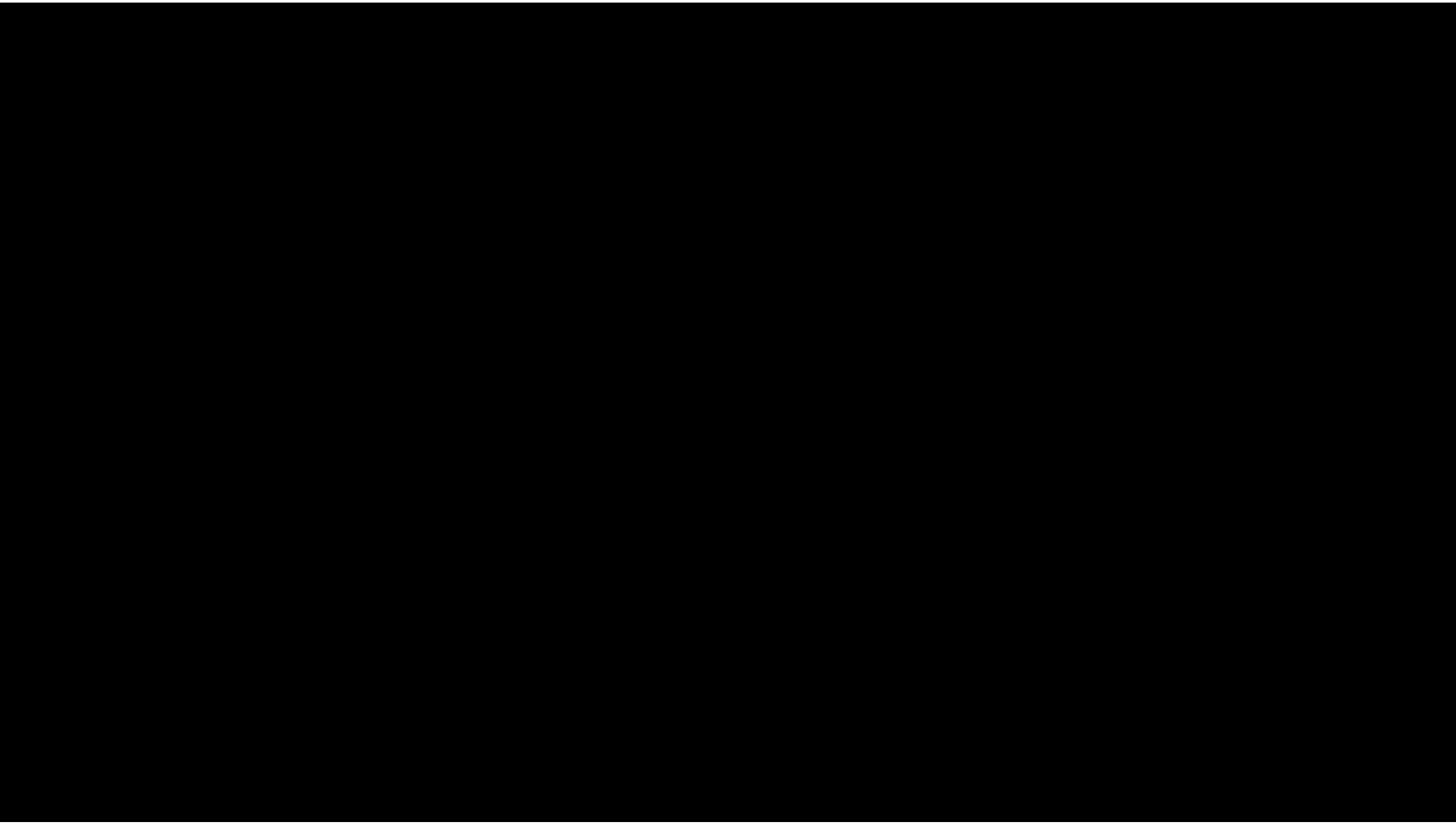
Project TRACE

TRACE
inTegration & haRmonizAtion of logistiCs opErations

Pilot in Slovenia:



Active collaboration among two logistics operators in BTC city. Among others … **testing delivery robots** …



CONCLUSION

CO2 free city logistics is and will be a significant challenge.

Suggested way forward:

- **Comprehensive planning** (resilient, flexible, agile - SULP)
- **Quadruple helix approach** (public, private, citizens, academia)
- **Logistics (horizontal) collaboration** (blockchain to enhance trust)
- **Implementation of new technologies** (e.g. delivery robots, zero-emission vehicles)
- **Data gathering and decision making (AI)**, advanced management and governance, exchange of best practices ...

Thank you for your kind attention.

Contact:

assoc. prof. Tomislav Letnik, PhD
Head of transport economics centre
UM FGPA

Address: Smetanova 17, 2000 Maribor (SI)
Mobile: 00386 41 343 243
E-mail: tomislav.letnik@um.si