Supporting autonomous mobility
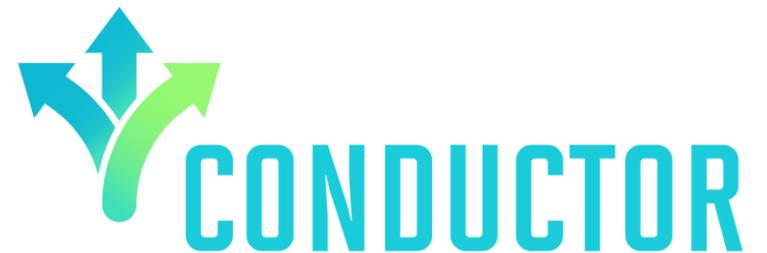
From Proposal to Deployment: Lessons learned

Gregor Papa / Jožef Stefan Institute

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From idea to deployment

Connected, Cooperative and Automated Mobility (CCAM) will only succeed if it works in real, mixed traffic, with legacy vehicles, human drivers, public transport, and logistics.

➢ Context & ambition
➢ What we did (pilots & methods)
➢ How we worked (preparation & execution)
➢ What we achieved (impact & results)
➢ What came next (follow-up project)

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Project in Brief

Profile	Partners
Coordinator	Netcompany
Higher Educational Institutions	Jožef Stefan Institute · TUM Technische Universität München · Deusto Universidad de Deusto · UNIVERSITY OF TWENTE. · National Technical University of Athens
Industrial partners	RIDANGO » · frontier innovations · BAX & COMPANY / VALUE FROM SCIENCE AND TECHNOLOGY · aimsun. · NOMMON · GoOpti · deepblue
End-Users	συγκοινωνίες αθηνών ΟΑΣΑ Α.Ε. · Gemeente Almelo

36 months
1st November 2022 – 31st October 2025

€ 4.6M EU funding
Innovation activities up to TRL 7

15 partners
From 7 different EU Member States

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Objectives & Use cases

Integrate CCAM into traffic and fleet management.

Ensure intermodal interoperability in traffic systems.

Test simulation models in real traffic with different priorities.

Optimise mobility network load balancing.

Align traffic management governance with user needs.

Each pilot targets a specific research question under real operational constraints.

1 Integrated traffic management

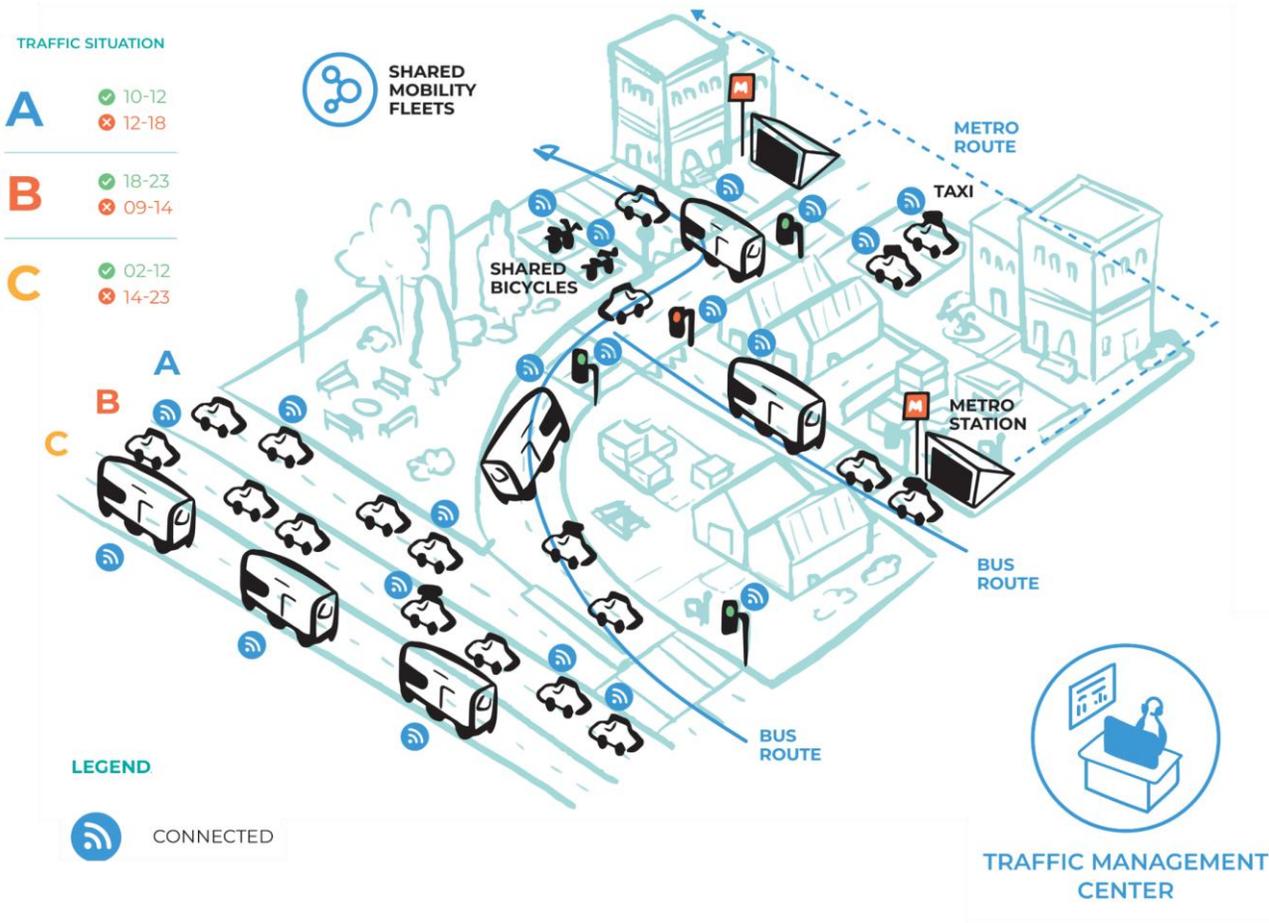Athens, Madrid, Almelo

2 Demand-responsive transport

Slovenia

3 Urban logistics

Madrid

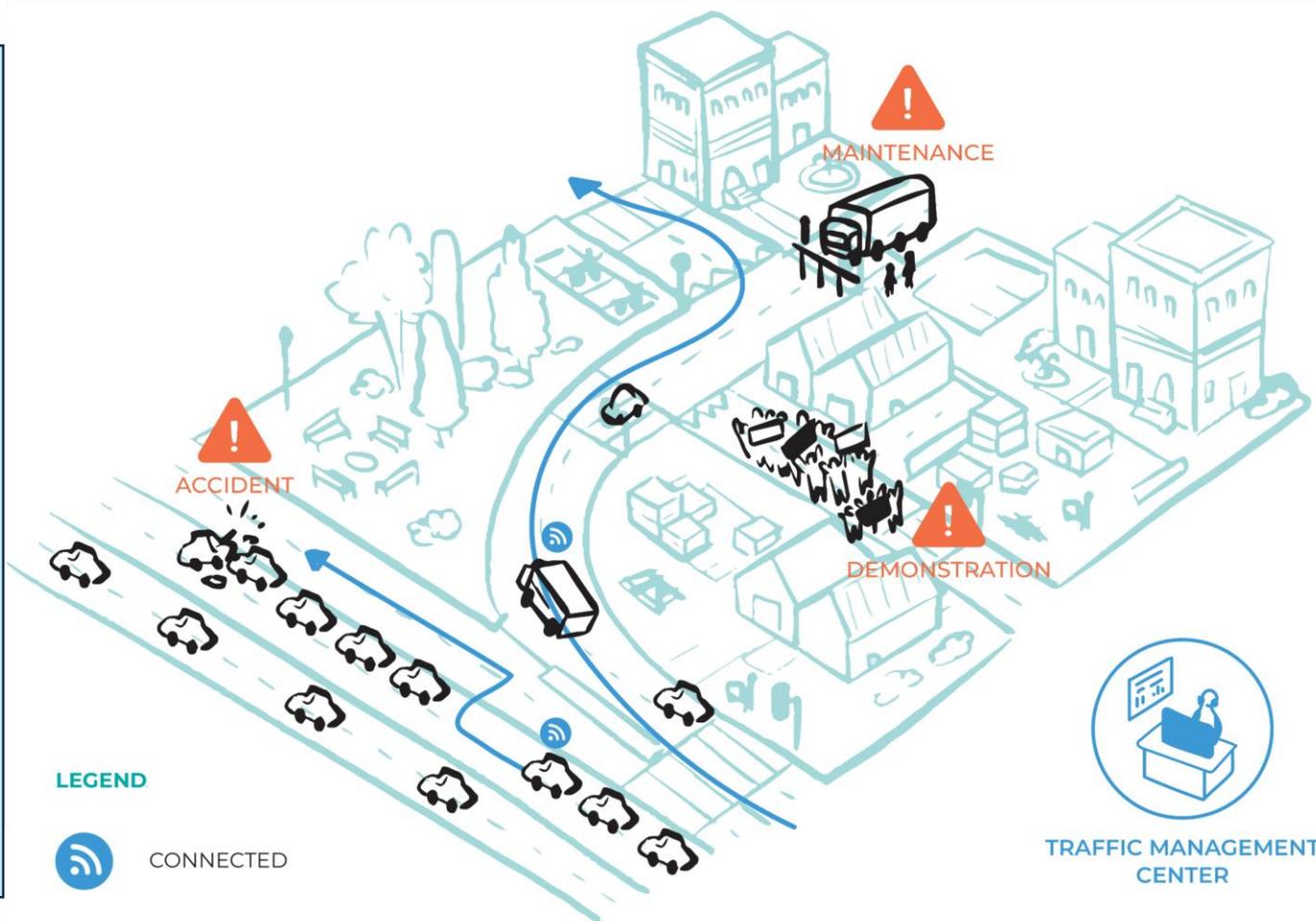CONDUCTOR

Pilot 1 - Integrated traffic management

Athens

FOCUS
- **AI-assisted signal control for multimodal traffic**
- **ETA prediction and incident management**

IMPACT
- **Reduced door-to-door travel time**
- **Improved reliability of public transport**

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Pilot 2 - Integrated traffic management
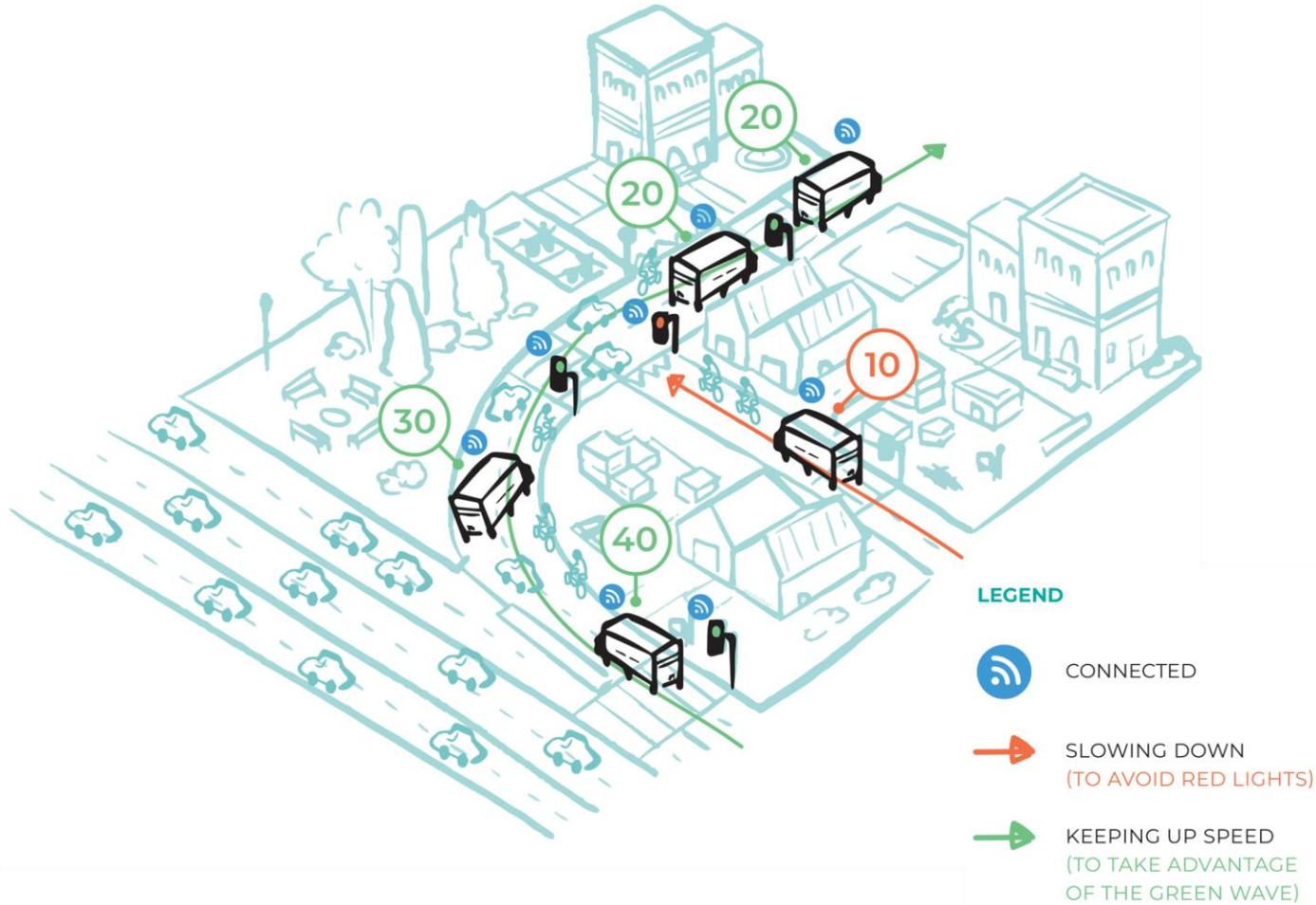
Madrid

FOCUS
- **Management of planned and unplanned events**
- **Integration of connected and autonomous vehicles (CAVs)**

IMPACT
- **Faster recovery after incidents**
- **Improved robustness of urban networks**

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Pilot 3 - Integrated traffic management
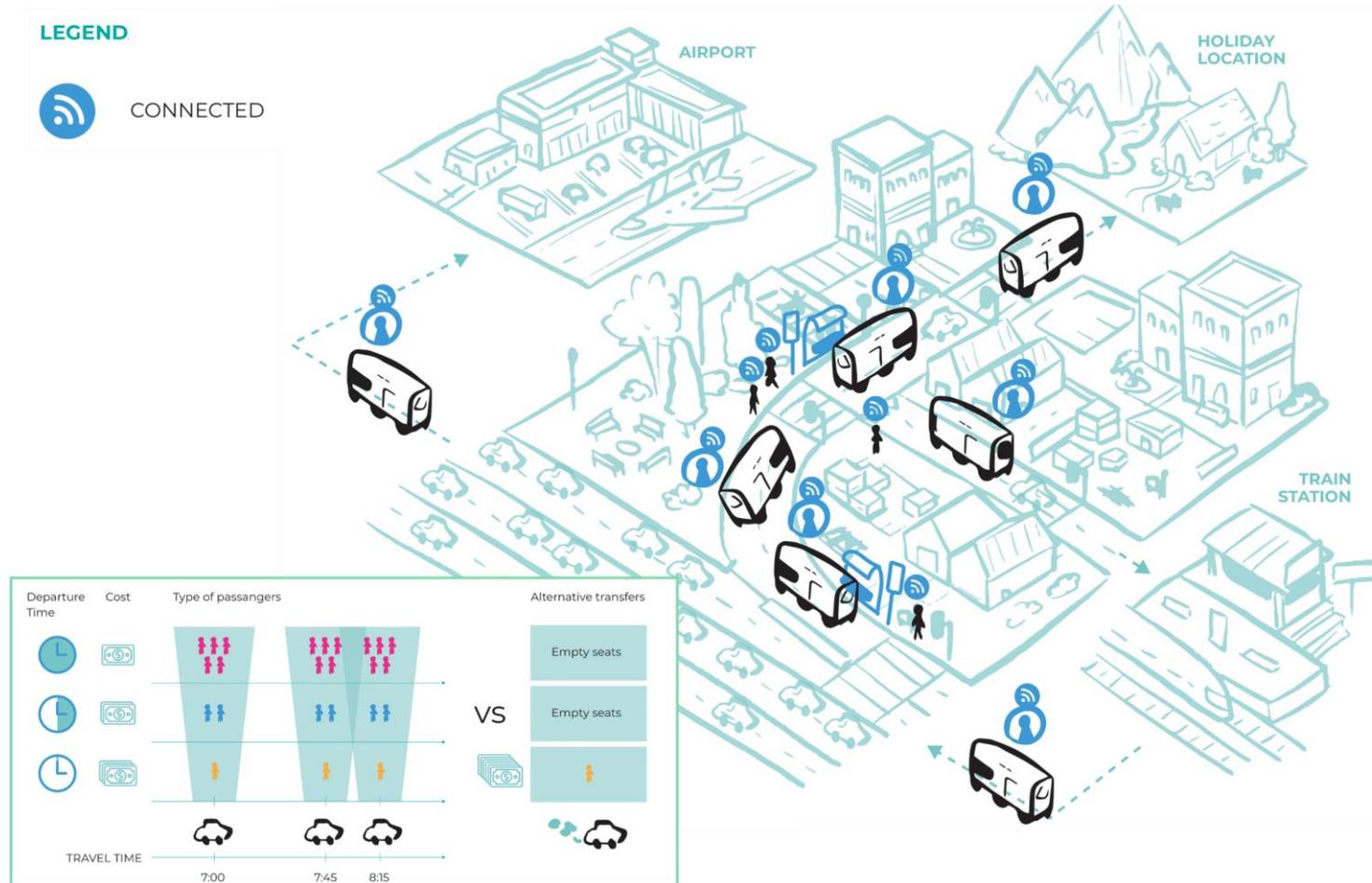

Almelo

FOCUS
- **Network-wide prioritisation of logistic vehicles**

IMPACT
- **Smoother freight flows**
- **Reduced emissions and delays**

LEGEND

CONNECTED

SLOWING DOWN
(TO AVOID RED LIGHTS)

KEEPING UP SPEED
(TO TAKE ADVANTAGE
OF THE GREEN WAVE)

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Pilot 4 - Demand-responsive transport

Slovenia

FOCUS
- **Reservation-based demand-responsive shuttle services**

IMPACT
- **More efficient fleet planning**

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Pilot 5 - Urban logistics

Madrid

LEGEND

- 📶 CONNECTED
- 🔴 FULL (PASSENGERS)
- 🟠 PACKAGE ALREADY ONBOARD
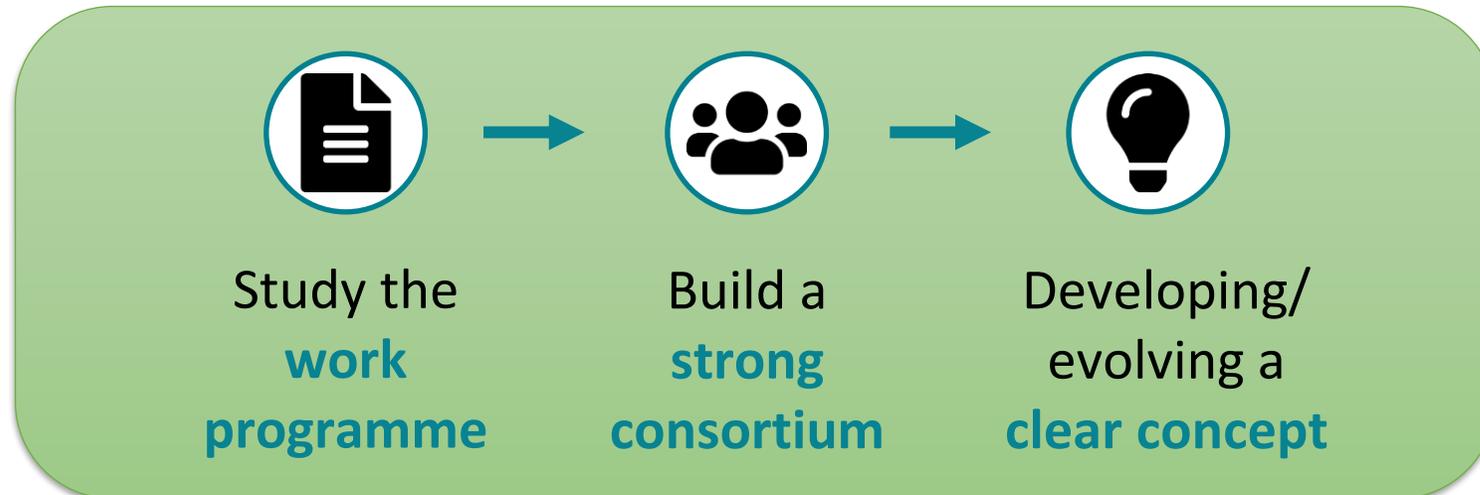- 🟢 AVAILABLE
- ✖ NO DEVIATION
- ✓ DEVIATION

LOCKERS

LOCKERS
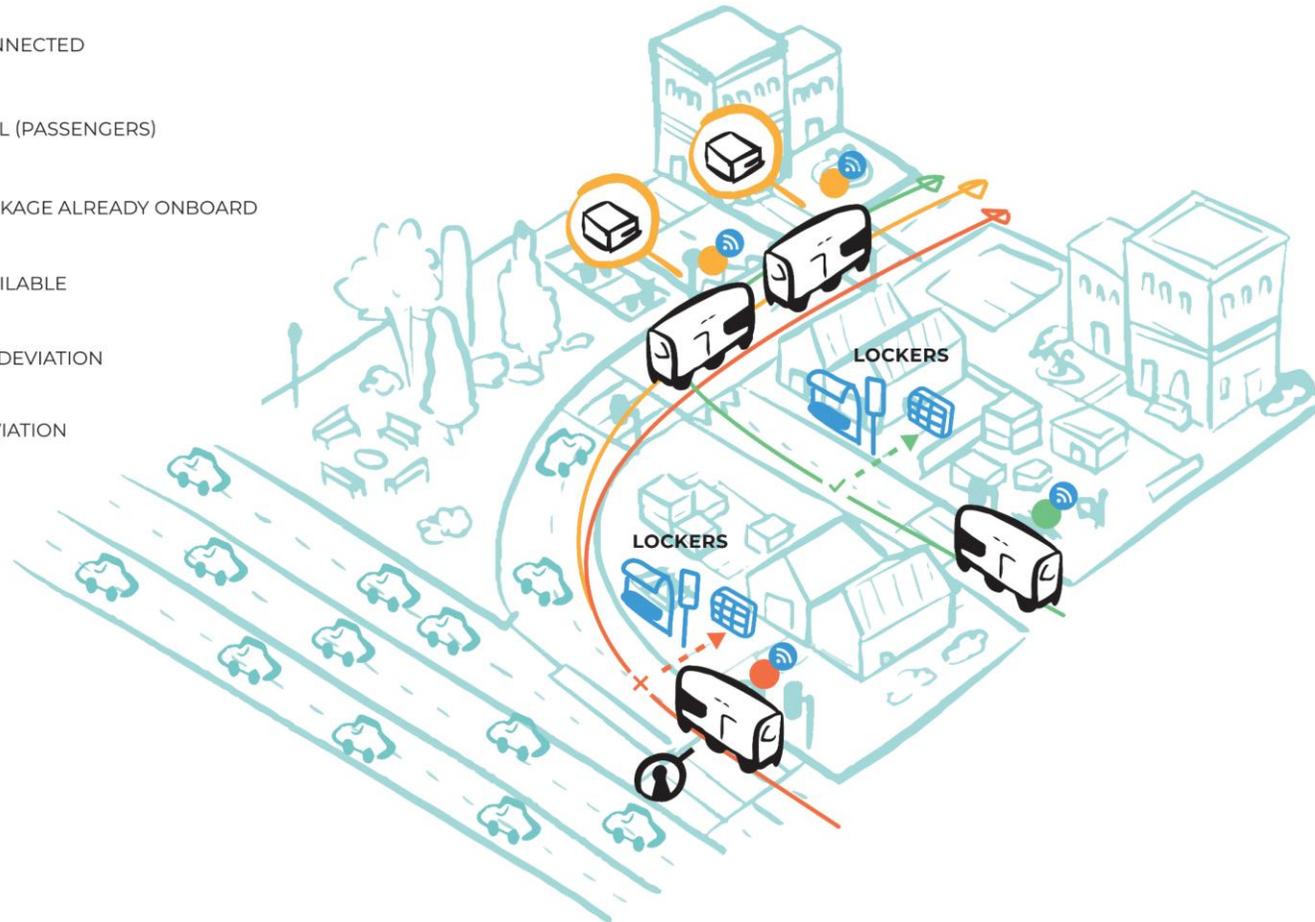
FOCUS
- **Integration of last-mile logistic with passenger DRT**

IMPACT
- **Fleet reduction**

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How it started

- **2020: First submission**
  - 15 partners
  - Call on effective network and traffic management for connected and automated mobility in a mixed environment with conventional vehicles
  - H2020-MG-2-11-2020

- **2022: Restructured and improved proposal**
  - 15 partners (6 partners from the first submission)
  - Call with similar topic but different requirements
  - HORIZON-CL5-2022-D6-01-04 (CCAM Partnership)

Study the **work programme** → Build a **strong consortium** → Developing/evolving a **clear concept**

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Preparation: What worked well

✓ **Early start**
- 8 months before deadline – extensive work in last 4 months

✓ **Clear division of roles**
- Coordination/writing
- Technology partners focused on innovation, academics on methodology, cities on validation

✓ **Regular consortium meetings**
- Bi-weekly preparatory meetings

✓ **Strong consortium**
- Academic excellence + technology providers + real end-users = credible innovation pathway
- Each partner brought specific expertise aligned with project goals

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Challenges

- **Technical integration complexity**
  - Proper understanding of integration effort at the proposal writing stage

- **Quantified impact targets**
  - To have a clear vision of the results and their outcomes

- **Budget negotiations**
  - Partners having different roles, foreseen efforts, cost levels
  - A need for a fair budget distribution

- **Data management plan**
  - Partners understanding of data sharing

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Implementation: What made it work

- **Tunning the consortium**
  - A 2-day in-person Kick-off meeting
  - Social dinner to fertalise team bonding
  - Each WP leader presented detailed plans
  - Created shared online workspace for communication and data/result sharing

- **Project work**
  - **Monthly virtual consortium meeting**
  - **Biannual in-person consortium meetings**
  - **Workshops** on project-work tunning during the in-person meetings
  - Regular email updates from coordinator

Maximising impact: Communication

- **Early planning**
  - Develop impact strategy from day one

- **Target audiences**
  - Identify and engage key stakeholders throughout project lifecycle

- **Measurable indicators**
  - Define clear KPIs and track progress systematically

Scientific Impact
- Publications in high-impact journals
- Open access compliance
- Conference presentations

Economic Impact
- Commercial exploitation plans
- IP protection strategy
- Market uptake pathways

Societal Impact
- Policy recommendations
- Stakeholder engagement
- Public awareness activities

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Results and Follow-up

- **Simulation and demonstration results**
  - Timely results and their assessment with local authorities and end-users

- **Final event**
  - Successful presentation of the results to the wider audience

Impact does not stop at project end.

- **Follow-up project proposal**
  - Merging forces with some partners of another project
  - Proposing the "follow-up" idea within the call
  - **Successfully** receiving the funding of **AcceptRemote** project
    - *Acceptance of remote operations for future urban mobility*
    - Call HORIZON-CL5-2025-04-D6-01 - Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs

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Thank you for your attention!