LAMILO
sustainable city logistics

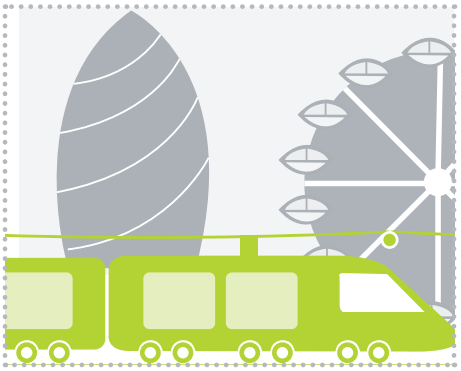
Executive Summary

www.lamiloproject.eu

Investing in Opportunities
This project has received European Regional Development Funding through INTERREG IV B.
INTERREG IVB

Introduction

LaMiLo (last mile logistics) is an INTERREG IVB North West Europe (NWE) project part-funded by the European Regional Development Fund (ERDF) with 13 partners from seven countries across North West Europe.



The project brings together public and private sector organisations, as well as researchers to collaborate on making the last mile of freight journeys more efficient and sustainable through a number of key activities:

- Engaging with private and public sector organisations, as well as customers and end users to try to influence behaviour change
- Practical, real life pilots testing sustainable last mile solutions using a variety of transport modes
- Understanding the barriers faced by the private sector when implementing efficient last mile solutions and influencing policy changes to bring about more sustainable urban freight deliveries.

This report sets out the main findings from these activities, and what we understand to be the conditions for success as far as sustainable last mile logistics are concerned.

By focusing on these conditions for success, the report aims to provide guidance to private and public sector organisations, inform regulatory bodies and influence them to take action to amend regulation at a national and regional level.

The context

Globalisation and e-commerce have changed how we shop and how goods are delivered to the end-customer.

Most logistics organisations extend their supply chains directly to the end-customer, operating increasingly across borders and with multiple organisations delivering in the same geographic area.

Due to lack of sharing capacity and increasing internet ordering, deliveries to end-customers are mostly uncoordinated, small drop-offs in separate vehicles to homes, shops and offices.

This information disconnect between suppliers, logistics providers and customers, often results in an inefficient way of delivering goods to end users, and in turn in reduced business efficiency, but most importantly, it leads to an increase in urban congestion and air and noise pollution.

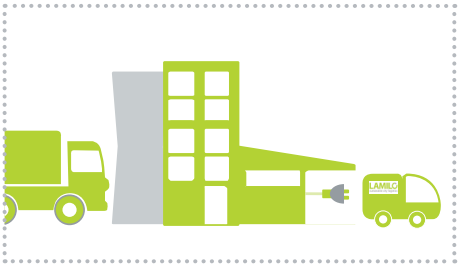
The objective

The project's objective is to embed new ways of delivering last mile logistics by influencing the behaviour of all stakeholders involved: private companies, the public sector and consumers.

By demonstrating innovative solutions that are cost effective, environmentally beneficial and transferable, the project hopes that both the private and public sectors will be encouraged to replicate the LaMiLo models across Europe in order to demonstrate more coordinated, effective and sustainable last mile logistics on a wider scale.

The conditions for success:

Behaviour change



Achieving sustainable and efficient last mile deliveries requires the behaviour change of all the stakeholders in a supply chain.

Indeed, behaviour change of those organisations involved in the urban freight process can make the difference between the success and failure of new initiatives in the area of efficient sustainable urban logistics.

Having engaged with private and public sector organisations as well as customers and end users, partners were able to understand and influence current last mile logistics behaviour and practices.

End user assessments were carried out for all of the pilots. Retailers, consumers and council staff were interviewed to understand the challenges they face and the drivers for their current behaviour towards logistics.

Retailers, logistics providers, and a variety of consumers were also invited to participate in a series of transnational behaviour change workshops. Here, stakeholders gathered to discuss approaches to changing the conduct of the organisations and people involved and to encourage collaboration to help achieve sustainable urban deliveries.

Partners are able to understand and influence current last mile logistics…

These workshops consisted of two parts: the first part was a lecture given by a psychologist about decision making and the resulting behaviour; the second part was about working together on the LaMiLo investments, assisted by a nine-step behaviour change model.

Public and private sector perspectives

Having liaised with private sector operators in North West Europe, the project was able to identify the key barriers to the implementation or optimisation of sustainable last mile solutions.

Similarly, by reviewing current policies and regulations and how these affect innovation in the logistics sector, the project was able to identify key changes required to achieve sustainable last mile logistics.

Barriers

Private sector organisations involved in last mile logistics solutions face a number of barriers to the implementation or optimisation of their operations. These include lack of suitable space for inner city consolidation centres, cost of expanding green fleets, waiting time at ramps, and regulations that do support deliveries using green vehicles.

Policies

The work carried out with the private sector, together with a detailed analysis of the impact of transport regulations on last mile logistics in North West Europe resulted in a thorough understanding of how policies and regulations can act as a barrier to efficient last mile logistics operations.

Policies that affect or are related to last mile logistics exist at European, national and regional/local level. These include legislation on: intelligent transport systems, road charging, clean vehicles, air quality, noise, health and safety, cargo bikes, and alternative fuels.

Eleven key policy measures used within local authorities to influence last mile logistics were identified within the project. These include time window restrictions, sustainable procurement, and environmental zones among others, although opportunities exist to improve public sector influence on last mile logistics solutions.

Indeed, in order to support the take up of last mile solutions, more can be done by the public sector such as placing access/parking/loading-unloading restrictions on standard vehicles and safeguarding land in strategic city areas for consolidation activities.

Above all, there is the clear need for the public sector to prioritise and to understand urban logistics. The project has endeavoured to raise awareness of last mile logistics and to provide tools to assist with the development of more sustainable solutions. A web-based GIS platform has been created to help the public sector to develop more efficient and sustainable urban freight transportation plans by mapping information on transportation networks, access restrictions, traffic measures, delivery and transport facilities, administrative units, population, land use and emissions. >>

The conditions for success:

Procurement

The project pilots in Brussels (Belgium), London and Perth (UK) required the public sector authorities to undertake a procurement exercise to identify a suitable private sector operator to provide a consolidation function.

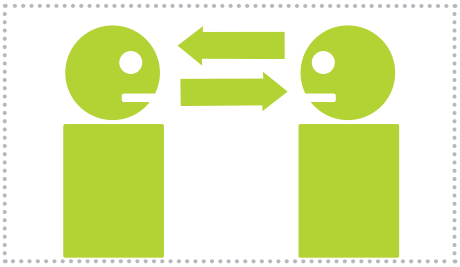
Each of these pilots embarked on a different procurement process, with varying degrees of success. What became clear was that urban consolidation is viewed as innovative by the logistics sector. Consequently, generating interest in public sector procurement among logistics service providers is a challenge, even in Brussels and London, both of which are at the heart of their respective national distribution systems.

Procurement can also be used as a tool for local governments to generate financial and environmental savings. Indeed, the role of transport procurers is key, as they are able to enhance efficiency and introduce sustainability into their supply chains. This can be done by using procurement policy to enforce deliveries to consolidation centres or by enforcing cost transparency from their suppliers.

The issue of delivery cost transparency has proved to be linked to the behaviour change of end users who often lack understanding of the true cost of delivery. By enforcing cost transparency, logistics operators would find it easier to achieve the financial benefits required for their operations to become sustainable. A new way of separating and clarifying delivery costs build up is required.

Collaboration

For the status quo to change, horizontal (between retailers and suppliers) and vertical (between public and private sectors) collaboration and integration needs to take place. The public sector should collaborate with the private sector to understand the



barriers faced and to proactively deliver effective last mile solutions where relevant, in order to make our cities better places for people to work and live. A coordinated and collaborative approach between retailers and suppliers is also required to achieve sustainable logistics.

To ensure that these measures are not limited, there is the need for stakeholders to communicate, share data, overcome competition, and find common solutions.

Environmental and financial sustainability

The impact assessment carried out on the project's pilot demonstrated that there is a positive environmental benefit to implementing these solutions.

However, while emissions and congestion reduction are high on governments' agendas, the solutions also need to be financially sustainable. Indeed the two must go hand-in-hand. The LaMiLo pilots showed that this is possible and clearly demonstrated that future projects can be successful despite several factors affecting the fragile financial sustainability.

The implementation of policies and regulations that benefit last mile operators will go a long way to increase the successful implementation of existing operations and the take up of new solutions.

Public sector investments, European funding, and support to start ups all contribute to innovate and optimize last mile operations. But when it comes to financial sustainability in the long run, three things are needed.

Cities need policies and regulations that benefit last mile optimisation…

First of all, cities need policies and regulations that benefit last mile optimisation. This will go a long way to increase the successful implementation of existing operations and the take up of new solutions. But even though it is a long way, local governments should be far more outspoken about what they want (and do not want) in their cities when it comes to freight mobility. Clear and effective Sustainable Urban Freight Plans are needed.

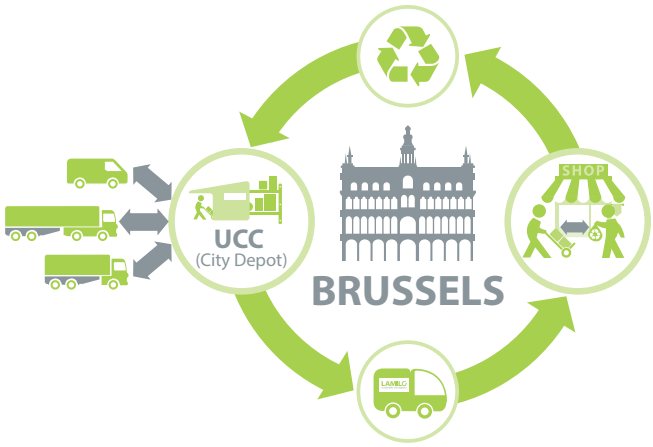
Secondly, the local government should give the right example when it comes to optimising their own freight flows, as discussed above in the procurement section.

Lastly, the market needs to make use of new models and concepts of urban logistics, especially when it relates to incoterms and small volume deliveries going in and out of the cities.

Incoterms rules are intended primarily to clearly communicate the tasks, costs, and risks associated with the transportation and delivery of goods. Usually, only small volumes are delivered in cities using the incoterm Delivered Duty Paid (DDP). However, the LaMiLo project advocates a new incoterm: Delivered at Citylogistic Service Center (CSC). Private companies, whether it be logistics providers or end receivers, could make use of this incoterm in order to promote the consolidation and coordination of the freight. This Incoterm decouples the financial flows between the long haul side (outside of the city) and the bundled delivery and collection inside of the city - as the market does for international trade.

The pilots – an overview

Brussels



Problem: various suppliers delivering to the same addresses, more vans on the road leading to more traffic and more emissions.

Solution: logistics providers deliver their goods to a warehouse where they are consolidated for onward delivery to retailers using clean vehicles, where possible.

Key statistics:

- 1 depot (1000 m^2)
- 6 municipalities – 54 km^2
- Opening times 06:30 -15:00
- 5 days a week
- 4,2 roundtrips per day
- 1 Heavy goods vehicle (7 t)
- 3 Light goods vehicles (3,5 t) (1 natural gas)
- Rate of failed deliveries 3,9%
- Delivery reliability > 99%
- Parcels 65%;
- Pallets 35%

Camden

Problem: various suppliers delivering to council buildings in Enfield, Waltham Forest and Camden contributing to congestion and emissions.

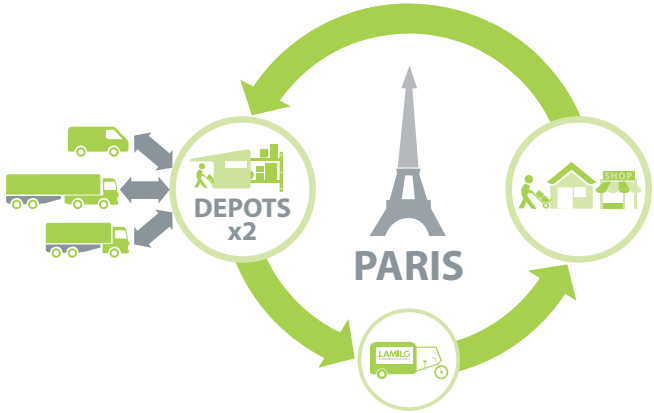
Solution: logistics providers deliver their goods to a warehouse where they are consolidated for onward delivery to council building using diesel vehicles.

Key statistics:

- 4 boroughs involved representing 10% of London's geography
- 127 suppliers/couriers using the service
- 250 buildings served >100 visited each week
- Over 300 orders p/week
- Consolidation 30% of occasions
- 40% reduction in delivery days
- Order values increased by >30%
- Supplier discounts achieved during pilot phase: 5-7%

The pilots – an overview

Paris



Problem: suppliers deliver goods directly to their customers or they use a subcontractor for the last mile. Deliveries are carried out from depots located outside of the city, contributing to emissions and congestion during the peak traffic hours.

Solution: logistics providers deliver goods from their clients' distribution centres to micro consolidation centres located in the centre of Paris, where goods are bundled for onward delivery by electric bike and vans.

Key statistics:

- Number of recipients: 170 customers
- Number of parcels: 2000 per day
- Turnover: 130 € HT
- Operating cost: 20% margin on salaries
- Number of deliveries: 35 (no pick-up)
- Cargo bike capacity: 1.5-2.1 m^3, 200 kg
- Travel time: 4 hours
- Rate of failed deliveries: 15%
- Distance: 10 km
- Full consumption: 16 km for feeder
- No CO_2 emissions, no PM emissions, no NOx and SO_2 emissions

Netherlands

Problem: the increase of e-commerce has led to a significant rise in the number of home deliveries and also an increase in failed deliveries. This in turn contributes to the increase in congestion and emissions in cities, affecting already poor air quality levels.

Solution: suppliers deliver goods to centrally located consolidation centres, where goods are bundled for onward delivery by bike at a time that suits the customer.

Key statistics:

- 1 depot in Maastricht (1.200 m^2), 1 depot in Nijmegen (450 m^2)
- Opening times 07:00 – 17.00
- 5 days a week
- 1 cargocycle trip per day per city
- Delivery at evening hours combined with urban mining
- Delivery reliability > 99%
- 1 neighbourhood involved in Maastricht (approx 4700 residents)
- 2 neighbourhoods in Nijmegen (approximately 9.000 residents)
- 36 residents participating in pilot in Nijmegen
- 27 residents participating in pilot in Maastricht

Conclusion

The project has demonstrated solutions that have been proven to be environmentally, financially and socially sustainable.

These solutions are transferable and transnational: they can be implemented in large and medium-sized cities, with little or no adaptation. The lessons learnt from the pilots, and the knowledge shared by the project will hopefully encourage others to replicate these models.

Organisations need to create networks of contacts so they can identify themselves as wanting to participate in this new way of working and demonstrating the advantages of operating at scale and replicability. There is a need to agree on common goals and objectives and more importantly to produce a set of core evaluation criteria – but with flexibility to suit respective organisations. This would ensure organisations can supplement this core evaluation with more specific local influencers.

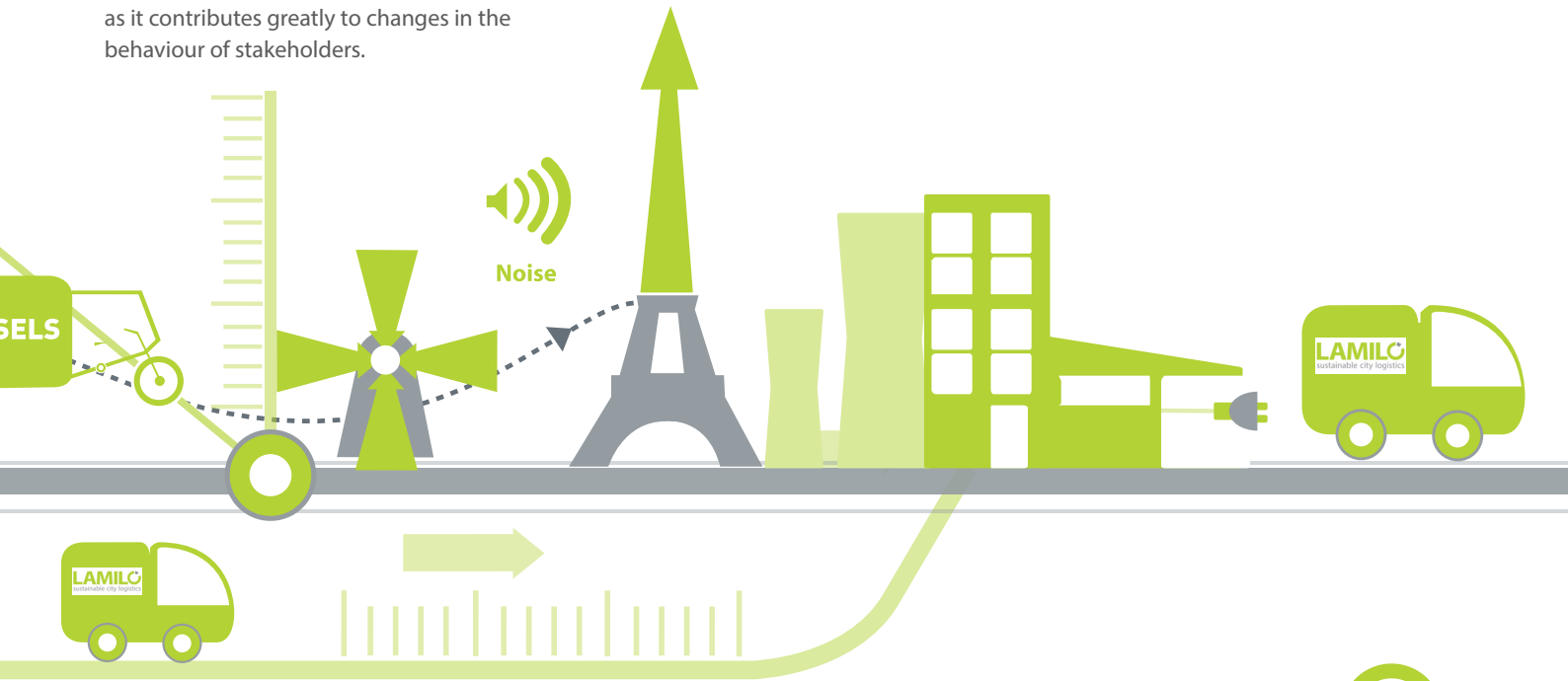
Behaviour change is time consuming but ultimately achievable. Raising awareness of logistics and the environmental and social impact of freight should be a priority as it contributes greatly to changes in the behaviour of stakeholders.

The public sector must not only create policies to support sustainable initiatives but also lead on these solutions. The Camden and Brussels pilots have shown that where local government leads, others will follow.

Finally, the positive impact of last mile logistics on the environment and the economy could be much greater if the private and public sectors collaborate on implementing sustainable solutions. Collaboration must also take place between stakeholders in a supply chain who should share data and fleets to achieve truly sustainable logistics.

Raising awareness of logistics and the environmental and social impact of freight should be a priority…

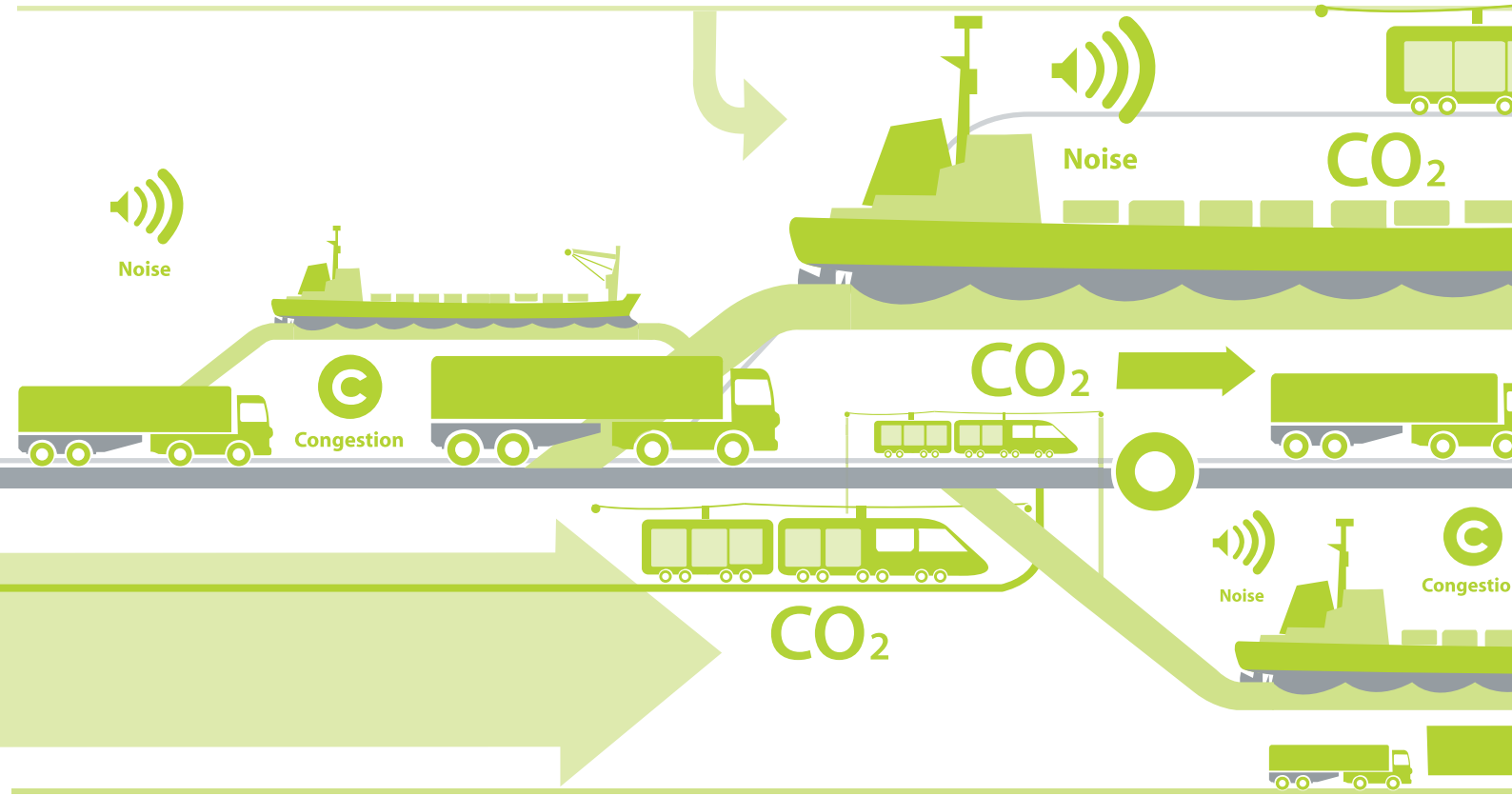
where local governments lead, others will follow…



For further information visit www.lamiloproject.eu or contact the lead partner

Institute for Sustainability
CAN Mezzanine
49-51 East Road
London
N1 6AH

T: +44 (0) 207 517 1832



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