Report sheds light on the main challenges, trends and factors influencing city logistics

Submitted by Cláudia Ribeiro on 11 Mar 2021

Picture:
WHAT INFLUENCES CITY LOGISTICS?

NEW TECHNOLOGIES
Technologic innovations are essential to make on-demand logistics more efficient and sustainable. Disrupting technologies have or will deeply positively impact the urban freight ecosystem (i.e. Intelligent Transport Systems, Driverless technology, Digital Twins, Augmented Reality, Physical internet).

CONSUMER REQUIREMENTS
The market is increasingly becoming consumer and on-demand oriented. The level of importance consumers give to different aspects of delivery, such as their social impact, environmental sustainability, use of the data provided, is impacting the business models and creating new information platforms and information-driven businesses.

ECONOMIC & DEMOGRAPHIC FACTORS
Economic and demographic factors weight in on the urban logistics ecosystem. Economic factors are very relevant due to the strong relationship between economic development and freight activity. Demographics are also pivotal, mainly with the physical distribution of the population and its structure affecting the focus on the regional distribution system, typology and frequency of delivery.

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The resilience of the logistics chains is essential and has been put through several stress tests with the rise of on-demand logistics, aiming to accommodate citizen’s expectations for fast delivery at low or even or zero cost. Urban logistics have long been an important element of sustainable urban mobility, with its importance being further reinforced with the COVID-19 crisis. The fast-changing patterns of consumers, who are increasingly turning to online on-demand platforms, is also bringing additional stress to the existing systems and to last-mile deliveries with pressing calls for action.

LEAD partners from Molde University and POLIS have recently published the report “City Logistics landscape in the era of on-demand economy: main challenges, trends and factors influencing city logistics”. The study provides an analysis of the strategic, regulatory, business, technology, and environmental factors influencing complex city logistics systems in the on-demand economy era. It includes a literature review and a survey with 125 respondents to identify the most relevant factors influencing urban logistics, including an analysis broken down per type of stakeholder. The research concluded that new technologies, consumer requirements and economic and demographic elements were selected as the factors that most influence on-demand logistics.

To favour the identification of the innovative solutions to be tested in the LEAD Living Labs and the different LEAD strategies, the study schematises the typologies of agile storage and last-mile distribution schemes, based on four categories:

1. Delivery locations, modes and times;
2. Loading and unloading area management;
3. Consolidation
4. New technologies.

This will help local partners to understand how the solutions will likely perform under various economic, environmental, and social conditions, looking at concrete experiences and evaluations throughout Europe and the rest of the world.

The study also identifies different green vehicles, classifying and evaluating these considering the needed requirements for their effective integration with logistics operations. An enablers and barriers map identifies the necessary actions, while for each vehicle the following are discussed: policy and legislation; technology and innovation; infrastructure; and consumer acceptance. A common element is a need for a charging infrastructure network suitable for the upscaling of these vehicles. This exercise provides insights on their level of maturity and complexity, relevant for an assessment of which are better suited for contexts beyond project activities.

The full report can be accessed here.

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