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PARCEL DELIVERY IN URBAN AREAS: OPPORTUNITIES AND THREATS FOR THE MIX OF TRADITIONAL AND GREEN BUSINESS MODELS

Abstract: Nowadays, the urban freight transportation demand is considerably increased due to the urbanization and the demographic growth, combined with the increased diffusion of e-commerce and Just In Time (JIT) solutions, and the diffusion of pervasive technologies, ensuring the economical dynamicity of urban centers. However, transportation operations have a significant impact on environment, due to the negative externalities generated, such as the increase of traffic and congestion, the energy consumption, visual, noise and air pollution. In particular, transportation activities are responsible of about 23.7% of the total CO2 emissions in Europe. These problems make the last mile of supply chain, the segment more or even the most expensive, inefficient and polluting one. In this scenario, several stakeholders, such as companies operating in the market known as Courier, Express and Parcel and local administrations, are readily activated in order to develop City Logistics projects and to implement new business models based on vehicles with low and very low environmental impact. The aim is to try to solve, or at last to reduce, the problems related to transportation acting on the trade-off between the efficiency of goods deliveries and the optimization of logistics operations on the one hand and the economic sustainability in urban areas on the other, one of the necessary requirements for the Smart Cities growth. This presentation deals with the integration in parcel delivery field of these new business models based on green transportation manners, with those traditional, analyzing the behaviors of the players involved in the urban transportation system and investigating how the mix of traditional and low emission logistics could coexist in the parcel delivery field in urban areas. Finally, we extrapolate from the results of the analyses conducted, some mixed-fleet policies for the parcel delivery management, showing how mixing a good environmental idea that works in a small scale in a larger one might incur in a potential failure due to bad scaling of the business model.

Note: Guido Perboli is Associate Professor of Strategic Management and Operations at the Department of Control and Computer Engineering. He is a CIRRELT collaborating member.

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Ouvert à tous / Open to all

Organisateur / Organizer
Teodor Gabriel Crainic