

Innovations for Freight Transport Systems

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Abstract : The paper presents part of the results of EU-funded projects: SoCool@EU (Sustainable Organisation between Clusters Of Optimized Logistics @ Europe), DG-RTD (Research and Innovation), Regions of Knowledge Programme (FP7-REGIONS-2011-1). It will provide an in-depth review of emerging technologies for further improving urban mobility and freight transport systems, such as (information and physical) infrastructure, ICT-based Intelligent Transport Systems (ITS), vehicles, advanced logistics, and services. Furthermore, the paper will provide an analysis of the barriers and will review business models for the market uptake of innovations. From a perspective of science and technology, the challenges of urbanization could be mainly handled through adequate (human-oriented) solutions for urban planning, sustainable energy, the water system, building design and construction, the urban transport system (both physical and information aspects), and advanced logistics and services. Implementation of solutions for these domains should be follow a highly integrated and balanced approach, a silo approach should be avoided. To develop a sustainable urban transport system (for people and goods), including inter-hubs and intra-hubs, a holistic view is needed. To achieve a sustainable transport system for people and goods (in terms of cost-effectiveness, efficiency, environment-friendliness and fulfillment of the mobility, transport and logistics needs of the society), a proper network and information infrastructure, advanced transport systems and operations, as well as ad hoc and seamless services are required. In addition, a road map for an enhanced urban transport system until 2050 will be presented. This road map aims to address the challenges of urban transport, and to provide best practices in inter-city and intra-city environments from various perspectives, including policy, traveler behaviour, economy, liability, business models, and technology.

Keywords : synchromodality, multimodal transport, logistics, Intelligent Transport Systems (ITS)

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