

Promoting Sustainable Freight Transport in Urban Contexts: Policy and Decision-Making Approaches

# Periodical Newsletter

Year 1 – Issue 1 (September 2017)

With 54% of the world's population living in urban areas, a proportion that is expected to increase to 66% by 2050 (United Nations, 2014), these trends are integrally linked to sustainable development. Thus, with good planning and governance, the increasing concentration of people in urban settlements can facilitate economic growth and social development, while also offering opportunities to mitigate against the adverse impacts of consumption and production patterns on the environment.

In this regard, advances in urban logistics operations and improved local authority planning, especially in the field of the urban freight transport, can alleviate the associated negative environmental and economic impacts occurring in cities. This provides the main motivation for the development of tools for helping decision-makers to reach higher grades of efficiency.

Through secondments of staff between research institutions and non-academic organisations, This project is predominantly focused on the identification and sharing of best practices for freight transport in urban contexts amongst a wide variety of stakeholders (both public and private sector). Further to this, the identified best practices, participatory approaches for stakeholders' engagement, and models and method for performing decision-making activities will be translated into a set of practical tools aimed at helping local authorities and public bodies to identify, define and implement appropriate policy options for urban freight transport.





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WY'S STOL

city distribution and 'last mile

eMILE

logistics services

### Secondments

During the summer months, the first secondments of the ProSFeT project took place. Dr. Andrea Genovese, Anna Melchiori, and Dr. Abiye Tob-Ogu visited respectively <u>Softeco Sismat</u>, <u>Sheffield</u> <u>City Council</u>, and <u>Stockholm Stad</u>. This is the first of a series of secondments that will be hosted by these organisations within the ProSFeT framework.

#### ProSFeT @ Softeco Sisma

Dr. Andrea Genovese, ProSFeT Principal Investigator, has visited <u>Softeco Sismat</u> for undertaking joint work with the software house from Genoa (Italy). *"I have really enjoyed my visit at <u>Softeco Sismat</u>. The company has got a very good portfolio of software solutions for dealing with Sustainable Logistics in Urban Contexts, and I have spent this initial secondment by reviewing them and understanding how these could be modified and adapted in order to provide stakeholders with tools for better decisionmaking. <u>Softeco Sismat</u> is a very innovative company, and their involvement in research programmes makes them very open to collaborate with academics".* 

"I found here a lot of enthusiasm about ProSFeT, and the start of the secondment was very productive, thanks to the guidance provided by Marco Boero (Director of Research and Innovation) and Marco Gorini (who oversees the development of software solutions for urban logistics at Softeco Sismat", said Dr. Genovese.

This is the first of a series of secondments that will be hosted by <u>Softeco Sismat</u> within the ProSFeT framework. The work that has been undertaken during this month will be pivotal for planning the next secondments that will involve <u>Softeco Sismat</u> both as a host and as a sending organisation.



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#### **ProSFeT @ Sheffield City Council**

Anna Melchiori from the National Research collaboration with Sheffield City Council for optimising Reverse Logistics Activities. "I have supervisor Alastair Black on the current management system of waste in the Sheffield municipality – said Anna. I learnt the adopted strategies and the performed operations from the kerbside collection of black-bluegreen bins to the disposal of materials at recycling facilities.

Moreover, I had the great opportunity to visit operating Household different Waste Recycling Centres in the Sheffield area thus getting more information on the collection tasks performed at the sites from operators.

Together with my CNR supervisor Antonino Council of Italy has been starting her Sgalambro we have been sharing our scientific knowledge mathematical of technologies in the field of Decision Science been closely working with my hosting <sup>E</sup>that could support better decision making and optimization of the freight transport activities related to the Waste Management system.

> I found the presented issues challenging from a scientific point of view and the City Council very interested in the proposed methodologies. I am looking forward to spending my next two months in 2018 there!"

#### **ProSFeT @ Stockholms Stad**

Abiye Tob-Ogu, from the University of Sheffield, has visited Stockholm City Council in order to undertake joint work in the field of Sustainable Freight Trasnport planning. Abiye's work is mainly concerned with WP1 of the project, and is looking at how the Swedish institution is involving stakeholders for improving decision-making related to these planning aspects.

Abiye's secondment lasted three months: "I have definitely learned a lot said him – and the whole experience will be beneficial not only to the research project but also to my general skills".

This has been the first of a series of secondments that will be hosted by Stockholm City Council within the ProSFeT framework.

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#### **ProSFeT** Project

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### **Project Publications**

In the first six months of the project two publications related to the project have been produced:

- "Assessing redundancies in environmental performance measures for supply chains." Andrea Genovese<sup>a</sup>, Jonathan Morris<sup>a</sup>, Carmela Piccolo<sup>b</sup>, S.C. Lenny Koh<sup>a</sup>
  <sup>a</sup>Management School, University of Sheffield, Sheffield, UK
  <sup>b</sup>Department of Industrial Engineering, University of Naples "Federico II", Naples, Italy Journal of Cleaner Production
  http://www.sciencedirect.com/science/article/pii/S0959652617311381
- By utilising well-established environmental indicators measuring the sustainability performance of supply chains (with a specific application to transport systems) this paper aims at critically assessing the amount of redundancy embedded in current performance measurement systems, also identifying the subset of environmental indicators that, if employed, could cover a wide amount of environmental impact categories without redundancies and providing decision-makers with a clear perspective.
  - "An optimization model for the outbound truck scheduling problem at cross-docking platforms" Diglio A.ª, Genovese A<sup>b</sup>., Piccolo C.ª
  - <sup>a</sup>Department of Industrial Engineering, University of Naples "Federico II", Naples, Italy <sup>b</sup>Management School, University of Sheffield, Sheffield, UK Proceedings of the <u>Optimization and Decision Sciences 2017 Conference</u>, (soon to be published on <u>Springer Proceedings</u> <u>in Mathematics</u>)

In this paper, a mathematical model to describe the so-called truck scheduling problem at a cross-docking platform is proposed. The model considers most of the actual constraints occurring in real problems; therefore, it can be viewed as an interesting basis to define a decision support system for this kind of problems that often arise at Urban Distribution Centres.

## Logical Town to collaborate with ProSFeT team

We are pleased to announce a new partner: Logical Town.

Dirik Ral

Logical Town is an association that promotes sustainable city logistics models in order to reduce the environmental and social impacts of freight distribution in the urban centres, in order to improve urban environment and citizen's quality of life.

The Logical Town Association aims to collaborate with local Authorities in order to develop smart urban mobility plans and to optimize city logistics operations in small-medium sized towns using sustainable approaches and looking at environmental, economic and social aspects.

Moreover, the Association aims to disseminate and exchange knowledge about experiences and operational models in Europe becoming a permanent centre for dissemination, promotion and experimentation about sustainable city logistics in Europe.