GRASS
GReen And Sustainable freight transport Systems in cities
The Introduction

Stanisław Iwan, Maritime University of Szczecin
Agenda

- Background
- Project introduction and objectives
- Partners
- Work plan
  - Work packages
  - Meetings and events
  - Dissemination
    - Web-site
    - E-bulletins
Background

- At the beginning of the XXI century more than 46% of the European population lived in the cities.
- It is estimated that till 2025 more than 75% of European population will be living in the cities.
- Probably till 2050 this number will increase to 84%.

Source: World Bank data
Background

The increasing of the cities population (source: World Bank data)
Background

Cityscope can shed light on the evolution of the global economy at a granular level.

Global population and GDP, 2007

- 100% = 6.6 billion
- $55.5 trillion

1. Estimate based on global GDP not including agriculture and mining; and GDP contribution of smaller Cityscope cities.
2. Megacities include cities with over 10 million inhabitants in 2007.
3. Middleweight cities have a current population between 150,000 and 10 million.

SOURCE: McKinsey Global Institute Cityscope 1.0
Background

- The increasing number of the cities' inhabitants influence on the **increase of the needs for the freight movement** (delivering of the goods, movement of the materials, removal of the city waste etc.).
- In view of the fast growth of cities combined with the growing needs of city dwellers, the problem of efficient functioning of goods transport and distribution in urban areas is gaining more and more importance.
- Moreover, due to the **increasing popularity of e-commerce** a considerable portion of **goods deliveries is made directly to individual customers**.
Background

- The total cost of freight transport and logistics is significant and has a direct bearing on the efficiency of the economy.
- The role it plays in servicing and retaining industrial and trading activities which are essential for major wealth generating activities.
- It is a major employer in its own right.
- The contribution that an efficient freight transport sector makes to the competitiveness of industry in the region concerned.
- It is fundamental to sustaining our existing life styles.
- The negative social and environmental effects of urban freight transport.

Background

- The European Council has set the target to reduce EU greenhouse gas emissions by 20% by 2020.
- Greenhouse emissions are mostly produced in urban conurbations being a half of overall road transport fuel combusted in urban areas.
- The negative impacts of urban goods distribution in terms of energy consumption and air pollution are mainly caused from low cooperation among relevant value chain stakeholders as well as from low system efficiency.
GREEN AND SUSTAINABLE FREIGHT TRANSPORT SYSTEMS IN CITIES

C-LIEGE

CLEAN LAST MILE TRANSPORT AND LOGISTICS MANAGEMENT FOR SMART AND EFFICIENT LOCAL GOVERNMENTS IN EUROPE
Background

- C-LIEGE overall approach: integrated and shared framework for energy-efficient urban freight transport (UFT) demand management and planning by a novel set of integrated solutions and “push-and-pull” demand-oriented measures.

- 17 Project Partners
- 11 different EU Countries involved
- 6 different EU Countries (pilot cities) testing C-LIEGE approach
- C-LIEGE project duration: 30 months (from June 2011 to November 2013)
## Background

<table>
<thead>
<tr>
<th>Participant name</th>
<th>Participant short name</th>
<th>Country code</th>
<th>Participant Logo</th>
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GRASS – the introduction

- Project GRASS is founded by grant from Norway through the **Norwegian Financial Mechanism 2009-2014 – Polish-Norwegian Research Programme**.

- Beginning: **1.06.2013**
- Ending: **30.04.2016**
Project objectives

- Review, compare and analyse effects of current practices and adaption of public regulations and stakeholders requirement on use of energy and technologies that impact limiting of greenhouse gases in Oslo and Szczecin.

- To determine the conditions for the implementation and development of energy-efficient urban freight transport in the Polish and Norwegian cities and regions, taking into account the often conflicting expectations of key stakeholders of the transport market.

- The promotion of a platform for the exchange of knowledge and mutual cooperation in a partnership (Freight Quality Partnership). In this experiment different stakeholders (representing different groups of interest) will be invited to participate in partnerships.
Maritime University of Szczecin is located in the most beautiful part of Szczecin called Wały Chrobrego.

It’s a civilian university, educating professionals, who successfully find jobs on sea, shore, in transport and logistics.
Project leader: Maritime University of Szczecin

- Maritime University of Szczecin is a technical school with over a 60-year-old tradition.
- The mission is to educate highly qualified maritime staff as well as the staff for transport and logistics industry.

- Research personnel are 250 university teachers.
- The University has 80 specialist laboratories, 15 simulators and training ship.
Currently education is being carried out on the three faculties:
- Faculty of Navigation,
- Faculty of Marine Engineering
- Faculty of Transport Engineering and Economics.

- About 4000 students study on all three faculties.
- Among the students are persons from Belarus, Ukraine, Czech and Lithuania.
Established in 2002, the **Faculty of Economics and Transport Engineering** is the newest faculty of the MUS. Major areas of scientific research of the Faculty:

- logistics (including **city logistics** and **telematics systems in logistics**),
- transport,
- port infrastructure and land management,
- effectiveness of port services,
- inland transport.

**Project leader:**

Maritime University of Szczecin

**Green Logistics for Greener Cities,** 19-21.05.2014, Szczecin
Partner presentation & and planned GRASS activities
Institute of Transport Economics (TOI)
Norwegian Centre for Transport Research, Oslo

Green Cities Conference
Szczecin, 19.-21. May 2014

Olav Eidhammer, TOI
Green And Sustainable freight transport Systems in cities

Institute of Transport Economics

- Norwegian Centre for Transport Research
- Established in 1964, based on a commission from 1958
- Partner in CIENS – Oslo Centre for Interdisciplinary Environmental and Social Research, www.ciens.no
- Independent, non-profit research foundation
- Located in Forskningsparken, Blindern, close to the University of Oslo
Mission

- To develop and disseminate transportation knowledge with scientific quality and practical application
Core values

- **Independence**: conclusions follow from the analysis, not from the vested interests of clients or stakeholders
- **Transparency**: methods, assumptions and results are accounted for and made public
- **Teamwork**: co-workers share their knowledge, competence and data, for a maximally efficient use of the Institute’s material and human resources
About TØI

- Private, non-profit foundation
- Interdisciplinary contract research
- Board members appointed by the Research Council of Norway (3), the Norwegian Ministry of Transport and Communications (3), and the TØI employees (2)
- Employees: 90
- 15-20 per cent basic funding
- Turnover in 2013: NOK* 96 million

* €1 = appr NOK 7.60
Institute of Transport Economics

TØI

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Ronny Klæboe
Green Logistics for Greener Cities, 19-21.05.2014, Szczecin

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- Travel Behaviour and Mobility
- Regional Development and Tourism
Department of Economics and Logistics

- Industry and Freight
- Economics and Modelling
Department of Safety, Security and Environment

- Road Safety
- Transport Safety and Security
- Environment and Climate
Research Staff

- Engineers 13
- Economists 28
- Geographers 5
- Psychologists 6
- Sociologist 12
- Political Scientists 9
- Other 8
Clients 2013

Per cent of turnover

- Ministry of Transport and Communications: 25%
- The Research Council, Basic funding: 20%
- The Research Council, Programmes: 19%
- International clients: 11%
- Local authorities: 10%
- Other central authorities: 6%
- Norwegian Public Roads Administration: 5%
- Others: 0%
Dissemination

- TØI-reports: All reports are available at www.toi.no. Summaries in English.
- The Handbook of Road Safety Measures, The Environment Handbook (Norwegian)
- Journal: Samferdsel (published by TØI)
- Scientific articles, papers and proceedings etc.
- Annual report
- Brochures and information folders
- Library
- Internet www.toi.no
Green And Sustainable freight transport Systems in cities

TØI is a founding member of ECTRI
http://www.ectri.org
Green And Sustainable freight transport Systems in cities

International cooperation - through participation

ITF International Transport Forum (OECD/ECMT)
COST European Cooperation in the field of Scientific and Technical Research
AET Association for European Transport (previously PTRC)
FERSI Forum of European Road Safety Research Institutes
SIKA The Swedish National Institute of Communication Analyses
TRB Transportation Research Board. Several committees
ECTRI European Conference of Surface Transport Research Institutes
PIARC World Road Association
NECTAR Network on European Communications and Transport Activity Research
ETSC European Transport Safety Council
Present results and planned activities in the GRASS project
Present results and planned activities (1/3)

Present results:

- Comparative analysis of environmentally friendly urban freight transport in Poland and Norway (WP 1).
- Guide for selection of efficient and environmental urban freight transport measures for Polish and Norwegian cities (WP2)

Ongoing activities:

- Analysis of urban freight transport influence on environment and quality of life in Szczecin and Oslo (WP3). Ongoing
  - Cyclic surveys of emissions in areas of Szczecin and Oslo
  - Survey on deliveries among business entities operating within the "Centrum" housing estate
  - Analysis
Present results and planned activities (2/3)

Planned activities:

- Modelling of transport pollution propagation in urban areas (WP4); Starting after summer 2014
  - Methodology for the modelling
  - Results of modelling for Szczecin
  - Eco-route; Interactive web tool for planning of environmental friendly routes in urban freight transport

- Joint and cooperative activities for environmental friendly urban freight transport in Szczecin- the pilot experiment (WP5)
  - Assumptions and requirements for freight quality partnership in Szczecin
  - Action and evaluation plan for experimental activities in Szczecin
  - Results of joint and cooperative activities
  - Action plan for implementation of environmental friendly UFT measures in Szczecin
  - Handbook for Freight Quality Partnership in Polish and Norwegian cities
Present results and planned activities (3/3)

- Joint and cooperative activities for environmental friendly urban freight transport in Szczecin- the pilot experiment (WP5). Starts in 2014
  - Assumptions and requirements for freight quality partnership in Szczecin
  - Action and evaluation plan for experimental activities in Szczecin
  - Results of joint and cooperative activities
  - Action plan for implementation of environmental friendly UFT measures in Szczecin
  - Handbook for Freight Quality Partnership in Polish and Norwegian cities

- Communication and dissemination of results (WP6)
  - Two International Conferences on «Green Logistics for Greener Cities» in Szczecin, Work Shops and management meetings
Thank you for the attention

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GReen And Sustainable freight transport Systems in cities

Action plan

<table>
<thead>
<tr>
<th>WPs</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP1</td>
<td>Establishment of surveys methodology, schedules, requirements</td>
</tr>
<tr>
<td>WP2</td>
<td>Analysis and classification of best practices in environmental urban freight transport</td>
</tr>
<tr>
<td>WP3</td>
<td>Analysis of the results</td>
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<tr>
<td>WP4</td>
<td>Designing of the model</td>
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<tr>
<td>WP5</td>
<td>Stakeholders involvement</td>
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<tr>
<td>WP6</td>
<td>Plan for communication, dissemination and quality assessment activities</td>
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<th>Year</th>
<th>Tasks</th>
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<td>2014</td>
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<td>2015</td>
<td>June</td>
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<td>2016</td>
<td>June</td>
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meetings in Oslo
meetings in Szczecin
milestones
deliverables

Green Logistics for Greener Cities,
19-21.05.2014, Szczecin
GReen And Sustainable freight transport Systems in cities

Action plan

- WP1 – Comparative analysis of activities for more environmentally friendly urban freight transport (UFT) systems in Norway and Poland (already finished)
- WP2 – State of the art review and requirements for environmentally friendly urban freight transport (soon finished)
- WP3 – Analysis of freight transport impact on the environment in Szczecin and Oslo areas (just started)
- WP4 – Modelling of transport pollution propagation in urban areas
- WP5 – Joint and cooperative activities for environmentally friendly UFT in Szczecin – the pilot experiment
- WP6 – Communication and dissemination of the results (realized)
<table>
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<tr>
<th>WP number</th>
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<tr>
<td>WP title</td>
<td>Comparative analysis of activities for more environmental friendly urban freight transport (UFT) systems in Norway and Poland</td>
</tr>
<tr>
<td>WP leader (name/title)</td>
<td>Stanisław Iwan, PhD.</td>
</tr>
<tr>
<td>Start date</td>
<td>1.04.2013</td>
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<tr>
<td>End date</td>
<td>28.02.2014</td>
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<tr>
<td>Objective</td>
<td>The analysis and comparison of functioning of urban freight transport (UFT) systems and identification of activities (projects, implementations) directed on environmental friendly UFT in Norway and in Poland.</td>
</tr>
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</table>
| Deliverables | 1.1.1 – The surveys plan and methodology  
1.2.1 – Results of work  
1.3.1 – The more environmental friendly UFT in Poland and Norway – the inception report and recommendations for future work |
## Action plan

<table>
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<td>WP title</td>
<td>State of the art review and requirements for environmental friendly urban freight transport</td>
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<tr>
<td>WP leader (name/title)</td>
<td>Cand oecon Olav Eidhammer</td>
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<td>Start date</td>
<td>1.10.2013</td>
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<td>End date</td>
<td>31.03.2014</td>
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### Objective
The major objective of this WP is the analysis of European and world initiatives at the area of implementation of environmental friendly measures for UFT and preparing of the requirements for transfer of it to other cities and regions.

### Deliverables
2.2.1 – The guide for efficient, environmental UFT in Polish and Norwegian cities based on good practices
### Action plan

<table>
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<tr>
<th>WP number</th>
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<tr>
<td>WP title</td>
<td>Analysis of freight transport impact on environment at Szczecin and Oslo area</td>
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<tr>
<td>WP leader (name/title)</td>
<td>Kinga Kijewska, MSc.</td>
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<td>Objective</td>
<td>The analysis of the influence of urban freight transport on environment and quality of life at the area of Szczecin (Poland) and Oslo (Norway) in the four time periods.</td>
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| Deliverables | 3.1.1 – Beginning of the analysis for the first quarter  
3.1.2 – Beginning of the analysis for the second quarter  
3.1.3 – Beginning of the analysis for the third quarter  
3.1.4 – Beginning of the analysis for the fourth quarter |
## Action plan

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<td>Modelling of transport’s pollution propagation at urban area</td>
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<td>WP leader (name/title)</td>
<td>Wojciech Konicki, PhD. Eng.</td>
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<td>Objective</td>
<td>Preparing of the model of transport’s pollution propagation at the urban area and implementation of it on free web-site for unlimited use by transport and logistics operators.</td>
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| Deliverables | 4.1.1 – Methodology for the modelling  
4.3.1 – The results of the modelling for Szczecin – evaluation report  
4.4.1 – Eco-route – interactive web tool for planning of environmental friendly routs in UFT |
## Action plan

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<td>WP title</td>
<td>Joint and cooperative activities for environmental friendly UFT in Szczecin – the pilot experiment</td>
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<tr>
<td>WP leader (name/title)</td>
<td>Stanisław Iwan, PhD.</td>
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<td>Start date</td>
<td>1.05.2013</td>
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### Objective

The most important question for this WP is: how to connect the different expectations of different stakeholders and support them to get the compromised results? The major objectives of this WP are the involvement of stakeholders and the establishment of the platform for cooperation and knowledge sharing as well as the joint actions for measures selection and preparing of the requirements for future implementations in Szczecin. Next important aim of WP5 is the preparing of the guides for FQP establishment in Polish and Norwegian reality (as the result of partnership experiment) and for proper development of environmental friendly measures in UFT.

### Deliverables

- 5.1.1 – Assumptions and requirements for proper functioning of freight quality partnership in Szczecin
- 5.3.1 – The action plan for experimental activities in Szczecin
- 5.4.1 – Evaluation plan
- 5.4.2 – Results of joint and cooperative activities – the final report
- 5.5.1 – The action plan for implementation of environmental friendly UFT measures in Szczecin
- 5.6.1 – Handbook for FQP establishment in Polish and Norwegian cities and regions
## Action plan

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<td>WP title</td>
<td>Communication and dissemination of the results</td>
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<tr>
<td>WP leader</td>
<td>Stanislaw Iwan, PhD.</td>
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<tr>
<td>Start date</td>
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### Objective

The objectives of this WP are the communication between project staff and stakeholders as well as dissemination and popularization of the results and solutions prepared during the project process. Proper dissemination is the basis of the project success. Lack of knowledge and understanding of environmental impact of freight transport is very big problem in Poland. Due to that, it’s necessary to emphasise these problems and popularize the methods of making UFT more environmental friendly. The important methods of dissemination will be the project web-site as well as two editions of international conference. Also results will be presented during other (not pointed yet) meetings and conferences in Poland, Norway and in other countries (like City Logistics Conference, organized by City Logistics Institute from Kyoto).

### Deliverables

- 6.1.1 – Communication strategy and quality plan
- **6.2.1 – Project Brochure**
- **6.2.2 – e-Bulletins**
- 6.3.1 – The First Conference Proceedings
- **6.3.2 – The Second Conference Proceedings**
- **6.5.1 – Project web-site**
Deliverables

The deliverables of the project are divided into two groups:

- **confidential deliverables**, only for project staff usage (all deliverables of WP1, deliverables D4.1.1, D4.3.1, D5.1.1, D5.3.1, D5.4.1, D5.4.2, D6.1.1);

- **public deliverables**, available on web-site and as printed documents (deliverable of WP2, all deliverables of WP3, deliverables D4.4.1, D5.5.1, D5.6.1, D6.2.1, D6.2.2, D6.3.1, D6.3.2, D6.3.3, D6.5.1).

All the public deliverables will be published according to the Polish, Norwegian and EU Law. Details on intellectual property rights in the project and compliance with copyright protection will be included in the consortium agreement.
Meetings and events

• Kick-off meeting in Szczecin – 12 June 2013
• Knowledge sharing workshop in Oslo – 27th of March 2014
• Two editions of **International Conference Green Logistics for Greener Cities** in Szczecin:
  – 19-21 May 2014,
  – April 2016
GReen And Sustainable freight transport Systems in cities

Dissemination

www.grassproject.eu

About the Project

The objective of the GRASS (Green And Sustainable freight transport Systems in cities) project is to develop guidelines for the effective and environmentally friendly urban freight transport. This is crucial because currently European cities are inhabited by about 75% of the population, and according to the OECD forecasts, in 2050 city dwellers will constitute about 83% of the European population. This leads to an increase in the demand for transport of various products including raw materials, semi-finished products, finished products, and industrial and municipal waste. The negative effect of such situation is increased air pollution, high levels of noise congestion and increased number of road accident victims. All this contributes to a decrease in quality of life for residents and is associated with increased incidence of cancer, respiratory system and cardiovascular diseases.

E-bulletins

Green Logistics for Greener Cities,
19-21.05.2014, Szczecin
Thank you for the attention

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