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Master in SMARt transport and LOGistics for cities  
585832-EPP-1-2017-1-IT-EPPKA2-CBHE-JP



KA 2 - Cooperation for innovation and the exchange of good  
Practices Capacity Building in Higher Education  
Joint project

<http://smalog-2017.uniroma2.it>

*WP 4.5 – The 2nd Annual Training Seminar on SmaLog issues*

**ERASMUS+ PROGRAMME**

**Project Number: 585832-EPP-1-2017-1-IT-EPPKA2-CBHE-JP**

# **Master in SMARt transport and LOGistics for cities / SMALOG**

**Grant Agreement Number 2017-2893/001-001**

**WP 4.5 – The 2nd Annual Training Seminar on SmaLog issues**

Lviv Polytechnic National University, 30th – 31st July 2019, Lviv, Ukraine

**Venue:** Stepana Bandera str. 12, Lviv



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**WP 4.5 – The 2nd Annual Training Seminar on SmaLog issues**

**1. Project meeting minutes**

**Place:** Lviv Polytechnic National University, Stepana Bandera str. 12, Lviv  
30th – 31st July 2019, Lviv, Ukraine

**Meeting attendees:**

Institution	City	Participant Name
P1 - University of Rome Tor Vergata - UNITOV	Rome	Antonio Comi
		Agostino Nuzzolo
P2 - Sapienza University of Rome – UNIROMA1	Rome	Eleonora Meta
		Brayan Gonzalez
P3 - O. M. Beketov National University of Urban Economy in Kharkiv - NUUE	Kharkiv	Dmytro Roslavtsev
		Igor Bugayov
P4 - Lviv Polytechnic National University - LPNU	Lviv	Yevhen Fornalchyk
		Mykola Zhuk
		Volodymyr Kovalyshyn
		Volodymyr Hilevych
		Mykola Boikiv
		Yuriy Royko
		Ivanna Gits
		Halyna Pivtorak
P5 - Zhytomyr State Technological University - ZSTU	Zhytomyr	Taras Postranskyy
		Oleksandr Kravchenko
P6 - National Transport University-NTU	Kyiv	Artur Makhno
		Olena Humeniuk
		Olga Kynytska
		Inna Osadchuk
		Larisa Bilanovska
P7 - Georgian Technical University - GTU	Tbilisi	Oleksandra Humeniuk
		George Doborjginidze
		Otar Gelashvili
P8 - Batumi State Maritime Academy - BSMA	Batumi	Teimuraz Ugulava
		Ketevan Zoidze
		Ledi Dzneladze
P9 – Silesian University of Technology - SUT	Katowice	Astan Makhadze
		Aleksander Sladkowski
P11 - Hochschule Wismar - HSW	Wismar	Aleksander Sobota
		Norbert Gruenwald

### *WP 4.5 – The 2nd Annual Training Seminar on SmaLog issues*

During the meeting, the following topics were covered by the discussion:

- Topic 1: Greetings. Introduction to the meeting.
- Topic 2: Introduction to Problem Solving - Prof. Dr. Norbert Gruenwald, Hochschule Wismar, University of Applied Sciences: Technology, Business and Design.
- Topic 3: Introduction to Project Management - Prof. Dr. Norbert Gruenwald, Hochschule Wismar, University of Applied Sciences: Technology, Business and Design.
- Topic 4: Macroscopic transportation modeling - Prof. Alexander Sobota, Silesian University of Technology.
- Topic 5: Some aspects of modern logistics - Prof. Aleksander Śładkowski, Silesian University of Technology.
- Topic 6: Simplified Road Safety Methodology for Infrastructure Risk Assessment - Researcher Brayan González-Hernández, Sapienza University.
- Topic 7: An overview of Road Infrastructure Safety Management procedures with a focus on road safety impact assessment - Prof. Eleonora Meta, Sapienza University.
- Topic 8: Transit System Modelling (part 1, part 2) - Prof. Agostino Nuzzolo, Prof. Antonio Comi, University of Rome Tor Vergata.
- Topic 9: Sum up of the 2nd Annual Training Seminar on SmaLog issues.

Below for each topic the main issues discussed and reported.

#### **Topic 1: Greetings. Introduction to the meeting**

Professor Mykola Zhuk and Professor Antonio Comi opened the meeting and welcomed all participants on behalf of Lviv Polytechnic National University in Lviv. They presented the agenda of the meeting and introduced the topics, also focusing on the organization and expected outcomes of the meeting.

#### **Topic 2: Introduction to Problem Solving - Prof. Dr. Norbert Gruenwald, Hochschule Wismar, University of Applied Sciences: Technology, Business and Design**

Professor Dr. Norbert Gruenwald presented European approaches to Problem Solving and key competences for Lifelong-Learning: Literacy competence; Multilingual competence; Mathematical competence and competence in science, technology and engineering; Digital competence; Personal, social and learning to learn competence; Citizenship competence; Entrepreneurship competence; Cultural awareness and expression competence.

He stressed on main four steps of problem solving: understanding the problem; devising a plan; carrying out the plan; looking back (evaluating the problem solution) as well as the attention was paid to problem solving as a series of six steps: understand; characterize; represent the problem; solve the problem; reflect; communicate the problem solution.

#### **Topic 3: Introduction to Project Management - Prof. Dr. Norbert Gruenwald, Hochschule Wismar, University of Applied Sciences: Technology, Business and Design.**

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Professor Dr. Norbert Gruenwald introduced the materials of Project Management stressing some focal points: project should have clear starting and ending points, it should not go forever; it needs to focus on achieving outcomes; it should clarify the sequence of steps that allow outcomes to be obtained; it might have a budget, an amount of money set aside to cover the costs; it might require a team of people to work on it or it could just be you.

#### **Topic 4: Macroscopic transportation modeling - Prof. Alexander Sobota, Silesian University of Technology.**

Professor Alexander Sobota from Silesian University of Technology presented: basics of transport modeling; characterization of building of transport model as a part of project integrated management transport system in Bielsko-Biała city – building of transport model” (Preparation and organization of the Measurements; Realization of the measurements; Analysis of the result metrics; Building of the computer transport model).

#### **Topic 5: Some aspects of modern logistics - Prof. Aleksander Śladkowski, Silesian University of Technology.**

Professor Aleksander Śladkowski introduced the materials of publication of articles in the field of transport and logistics in journals from WoS and Scopus databases. He also presented: leading journals of transport and logistics according to assessment of SCOPUS; links to the journal are contained in over 250 databases of public libraries, universities, research institutes, commercial sites, search engines; Evaluation of the journal by the Ministry of Science and Higher Education of Poland in 2016. Professor also presented electronic toll collection system in Poland and its influence on the transport logistics.

#### **Topic 6: Simplified Road Safety Methodology for Infrastructure Risk Assessment - Researcher Brayan González-Hernández, Sapienza University**

Researcher Brayan González-Hernández presented the materials of Simplified Road Safety: Background (road safety problem; road safety LMICs; rate of death; vulnerable road users (VRUs); concurrent factors; road safety inspections; international road assessment program (iRAP)); Project overview (study objectives; main purposes of the methodology); Risk Assessment Methodology (risk calculation formula; methodological framework; danger & vulnerability calculation; risk calculation; risk levels); video survey & equipment (equipment for video filming; blank sheet); Tool overview (video analyzer; MAP explorer; data explorer); Results on National Highways in Africa (a field survey campaign; definitions used for road risk assessments); Final considerations.

#### **Topic 7: An overview of Road Infrastructure Safety Management procedures with a focus on road safety impact assessment - Prof. Eleonora Meta, Sapienza University.**

Professor Eleonora Meta presented an overview of Road Infrastructure Safety Management:

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- ✓ Road Infrastructure Safety Management (Shares of crashes caused by road user, vehicle and road factors; Life Cycle Stages of a Road Infrastructure; Road Safety Impact Assessment; Efficiency Assessment Tools; Road Safety Audit; Road Network Operation; Road Safety Performance Indicators; Network Safety Ranking; Road Safety Inspection; Road Assessment Programme; High Risk Site Management; In-depth Investigation).
- ✓ Directive 2008/96/EC (EU fatalities and targets; Subject Matter and Scope; Curricula for Road Safety).
- ✓ Road safety Impact Assessment (Road Safety Impact Assessment on road network; Accident Prediction Models; Accident Modification Factors).

#### Topic 8: Transit System Modelling (part 1 and part 2) - Prof. Agostino Nuzzolo, Prof. Antonio Comi, University of Rome Tor Vergata.

Professors Agostino Nuzzolo and Antonio Comi presented materials of Introduction to Transit System Modelling: User and external direct cost forecasting; Transit service definitions; Transit supply models; Line-based approach; Run-based models; Service sub-graph; Temporal centroids sub-graph; Access-Egress sub-graph; The diachronic graph; Scheduled service modelling approaches; Services classification; Modelling approaches; Path Choice Behaviour Classification.

Professor Agostino Nuzzolo introduced the materials of frequency-based modelling for high frequency and low regularity services (Line-based approach; Frequency-Based Path Choice Models; Hyperpath or Optimal Strategies; Frequency-based approach: modeling problems; Real-time vehicle occupancy forecasting; Frequency-based approach: modeling problems).

Professor Antonio Comi presented materials of Run-based modelling for low frequency services (The diachronic graph; Demand models: *Schedule-based models for low frequency services*; *Path choice models*; Modeling approaches; Within-day Dynamic Network Loading; Run-based mode-service choice models; Commercial Software; Specific Software). He also introduced application example - DYnamic Regional Transit/Transportation simulation (DY-RT functional architecture; Design scenario; Application to Regional Railways; Zoning; Supply models; Demand segmentation; Mode-service choice model; Assignment results (run-aggregate results); Park & Ride Demand; Aggregate evaluation indexes).

#### Topic 9: Sum up of the 2nd Annual Training Seminar on SmaLog issues

The seminar was very useful experience for staff and students. The format was very good and positively accessed by attendees. This kind of contribution to partner universities is essential for the development of staff and quality of education. This will have the most positive outcomes. The material of the course was planned to be accessible through project website to all partner institutions.