



ITL

Intellectual Output 2 – A3.3 and A3.4: Description of the Training Modules and the Training Methodology

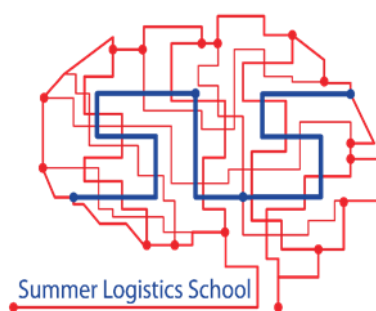


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Introduction

Following the Training Modules were identified by the core technical partners of the Summer Logistics School project (FPP, ITL, AFT, FPZ):

TM1 - MARITIME AND INTERMODAL TRANSPORT SIMULATION/SIMULATORS

TM2 - SUPPLY CHAIN MANAGEMENT – “COLD CHAIN/PRODUCTS”

TM3 - WAREHOUSE ANALYSIS AND ORDER PROCESSING

TM4 - TRANSPORT ORGANIZATION

TM5 - KEY/NEW BASIC SKILLS* IN TRANSPORT AND LOGISTICS

The duration of “mandatory” Training Modules (TM1 and TM4) will be around 1,5 days. With one day, we refer to 8 hours of training (4 hours in the morning and 4 hours in the afternoon).

Optional Training Modules (TM2, TM3, TM6) will last 1 day (8 hours).

In the following paragraphs, the content of each module will be described as well as the methodology that will be used for teaching.

The Educational Standard that will be prepared merging this document together with the structure and organization document will include more details about the scheduling and the content of each Training Module.

I. Training Modules Description and Methodology

A. TM1 - MARITIME AND INTERMODAL TRANSPORT SIMULATION/SIMULATORS

MANDATORY MODULE (12 hours)

The Training Module focuses on two specific transport modes, the maritime one and the intermodal one. While the maritime units 1 and 2 will be focused on Navigation and Maritime logistics, the Intermodal units 3 and 4 will focus on the management of an intermodal platform, and in particular on the management of Rail-Road Terminal, being it an inland one or included in a Seaport.

The Training Module, according to the results of the O1 will be performed using innovative and attractive technological tools, such as nautical simulator and other software tools. In addition to lecturers and presentations, these simulations/tools are the main training methods for the Module.

With reference to Navigation unit 1, the Faculty of Maritime Transport of the University of Ljubljana already owns the simulator that will be used. The simulator is composed by a real navigation bridge of ship and a screen that displays the sea and the weather conditions. The navigation bridge can move according to the waves of the sea and it allows to manage all the parameters of the ship and of the navigation, and therefore to conduct the ship. A radar is also present. The Training Module will also include the possibility of practicing navigation on small vessels, thus understand and use the techniques for navigation to assess the weather parameters and conditions.

The second unit of the module, Maritime logistics, will focus on various types and characteristics of vessels, various port terminals, cargo handling equipment, coordination of the arrival and departure of shipments, documentation related to shipments arrival/departure etc. The main method will be the use of a case study. Moreover, visit of Port of Koper will be organized as well.

With reference to Intermodal Transport, the used simulator is being developed thanks to another Erasmus+ project titled SIMULTRA (Simulation of Logistics and Transport Processes), led by ITL. The simulator will replicate the management of a rail-road inland terminal. It will be possible to select the track for an incoming train, according to the train list, to exchange information with the rail company, to coordinate loading and unloading activities performed by reach stackers drivers according to the layout, to check-in the trucks arriving at the terminal for delivering an outgoing UTIs or taking an incoming UTI according to the booking request.

Frontal lectures will be used at the beginning of each unit in order to prepare learners to the use of the simulator, in order to make the learners understand the main characteristics of the layout of a terminal as well as the documentation.

To sum up, the main focus of the Maritime Transport Unit will be the techniques of navigation, the components of ships and boats, the equipment and tools for navigation, the parameters for assessing weather conditions. While the main focus of the Intermodal Module will be the features of an intermodal terminal, of the UTIs, of the trains and wagons, the documents and the operational process for managing a terminal.

B. TM2 - SUPPLY CHAIN MANAGEMENT – “COLD CHAIN/PRODUCTS”

OPTIONAL MODULE (8 hours)

The Module focuses on the Supply Chain Management of a specific category of products, such as the products that need a special temperature regime (pharmaceutical products, fresh food etc.) – cold products. The focus of the training module is cold supply chain.

This training module firstly (unit 1) describes some general aspects of supply chain (subject, flows, types, risks, success factors). Unit 2 describes what cold chain is, what cold chain infrastructure and equipment is needed and how it need to be maintained. Special attention is given to storage of cold products (unit 3) and transport activities in cold supply chain (unit 4).

Unit 3 focuses on types and characteristics of warehouses for storing of cold products. This includes the following: technical requirements of cold products storage; definition of appropriate refrigeration conditions (e.g. temperature, humidity) at which goods have to be stored; standard operating procedures for storage of cold products; procedures for appropriate stacking products; processes of product handling; procedures for operating vapour detectors and alarms; different types of storage equipment; requirements for cold products movement and distribution from warehouse steps for updating and confirming the temperature requirements of the loading bay and truck.

Transport unit 4 focuses on the main regulations and standards related to transport of different cold products, main types and characteristics of cold chain technologies in providing a temperature-controlled environment during transport, main types of cold chain monitoring equipment, safe transport of cold products.

Teachers will provide basic knowledge on such specific Cold Supply Chain using direct instructions, board game, case studies and SIMULTRA simulator (see the explanation below). In addition, a relevant part of the training will be carried out by managers and experts of the logistics service providers specialized in the cold chain management. Moreover, in-company visits will be included in the module, to deeply understand and analyze the specificity of storage and transport activities.

To gain an insight on the dynamics and the costs of a generic Supply chain, the simulator developed within the SIMULTRA project (Erasmus+) will be used. The simulator is related to the organization of a Supply chain of a container that is shipped from a port of China and is delivered to European Seaport. The simulator allows to assess all the costs of the Supply chain as well as the trends of such costs and apply changes according to the needs of the importing company.

C. TM3 - WAREHOUSE ANALYSIS AND ORDER PROCESSING

OPTIONAL MODULE (8 hours)

The Module will cover three main topics:

1. Warehouse activities with focus on order processing (acceptance of the order by the picker, picking units using different technology, checking and dispatching the order);
2. Main warehouse technologies; and
3. Methods for the optimal management of a warehouse, in particular the kind of data needed for running analysis and assessment of the basic warehouse Key Performance index (KPI) and methods for collecting and elaborate those data using basic statistic tools.

Frontal lectures are expected to understand the warehouse processes (arrival of units into warehouse, identification of units, assigning storage locations, put-away process, replenishment, picking and dispatch) and to understand the various equipment and solutions, as well as their functioning.

Case studies, video presentations and also the use of Warehouse Management System, created within the SIMULTRA project, will be used. Therefore, it will be possible to fill in data and information of incoming products, to check the inventory, to prepare an order list. The Simulated WMS can be linked to real tools, such as bar codes reader and labels printers, thus if such tools will be available it will be possible to fully simulate the reception of goods and the order processing.

Real case studies of warehouse analysis will be carried-out using real data and Microsoft Excel. Basic KPI will be calculated (ABC analysis etc.).

During the visit of the port of Koper, warehouse for fresh products will be shown to the learners in order to better understand all the activities, presented theoretically in the classroom.

D. TM4 - TRANSPORT ORGANIZATION

MANDATORY MODULE (12 hours)

The module addresses the organization of transport mission by road, therefore focuses on all the details that are involved in the preparation of a transport mission, such as:

1. Selection of the appropriate type of vehicles with regards to the volume, weight and delivery time;
2. Selection of the appropriate type of the unit;
3. Plan of the optimal route;
4. Monitoring of the transport mission;
5. Fill in of the transport document (CRM);
6. Calculation of the costs.

So, the first part of the module will be mainly featured by frontal lectures refreshing and providing the necessary knowledge for understanding real case studies and carrying out practical exercises and applications.

Real case studies as well as exercise based on real parameters (problem solving) will be carried out in to teach how to read transport documents and contracts, to select the right vehicle for the cargo provided by the customer, to assess the right price of the transport mission, as well as to monitor it.

Case studies could be realized with the direct involvement of transport companies and transport managers in order to deeply address the real situations of the workplace.

Also in this case, it is foreseen the use of a simulator for the management and monitoring of a transport mission, which the SIMULTRA project (Erasmus+) is developing. The simulator will allow to replicate the main task carried- out by a clerk of a transport office. Therefore, based on the service requests from a customer, the user will plan and organize the transport mission, taking into account the fleet's vehicles as well as the driving hours of the drivers.

E. TM5 - KEY/NEW BASIC SKILLS¹ IN TRANSPORT AND LOGISTICS

OPTIONAL MODULE (8 hours)

The Training Module focuses on a transversal topic for all sectors that often constitutes common issues for all countries and all types of workers and learners.

The Module will focus on various topics, such as: the way of behaving, relate and communicate with the other different actors of the Supply Chain, personal development, aiming at increasing the potential of people and the development of interpersonal skills needed to achieve their objectives. This will be done through the development of greater awareness of own skills as well as through an increased capacity to “sell” the personal competences on the labor market, which is a relevant topic for the companies.

Moreover, another key aspect to be taken into account is the Stress Resilience of workers of the logistics and transport sector. Indeed, the sector is usually featured by seasonal trends, with peak periods in which working times and activities are greater than other periods or different in comparison to other sectors. Examples and case studies can be provided for better transfer the characteristics of the working environment for the sector.

Finally, considering the occurred as well as growing trend of globalization, new skills are needed and will be addressed in this module. Among these, change management is an important skill, both with reference to the Market conditions, and to the Labour conditions affecting the workers (travels, corporate internal reorganizations, mobility, change of the working premise. Change management is strictly linked to the concept of flexibility, creative thinking, and ability to re-invent ourselves.

¹ ***New basic skills:** the skills such as information and communication technology (ICT) skills, foreign languages, social, organizational and communication skills, technological culture, entrepreneurship. Comment: combined with basic skills, new basic skills form the key skills needed to develop in contemporary knowledge society.
Source: Council of the European Union, 2000.