

ACTIVITY 3.2 Pilot actions implementation

PILOT ACTION FINAL REPORT

Final Version
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1. BACKGROUND

Introduction

Technical Work Package 3 includes pilot actions and trainings for cooperation in multimodal transport chains and business activation. Within this WP, activity 3.2 involves the implementation of the pilot actions.

Each partner shall carry out its pilot (as it is specified in the application form) and prepare its pilot report. In all cases other partners are involved, too (assessment, capitalization etc).

Purpose of this document

In order to have a same quality level of pilot report, PP8 Freeport of Budapest as WP leader provides a series of reporting templates, including:

- the pilot action inception report
- the pilot action mid-term report
- and the pilot action final report

This document - the template of the pilot action final report - is the third and last element of this series. The aim of this document is to provide methodological support to be used to summarise the implementation of each pilot action.

Which project partners are involved?

Each project partner who has a pilot is involved. The following table summarises the pilot actions and the responsible PPs.

Topic	Pilot action - Deliverable	Partner responsible
Last mile connections of multimodal nodes	D 3.2.1. PA for last mile connectivity of multimodal nodes: Feasibility Study for a new rail terminal	PP4 - ZAILOG
Multimodal terminals efficiency and optimisation	D 3.2.2. PA for multimodal nodes/terminals efficiency and optimization: innovative control shunting system	LP - NASPA

Topic	Pilot action - Deliverable	Partner responsible
Multimodal terminals efficiency and optimisation	D 3.2.3. PA for multimodal nodes/terminals efficiency and optimization: ICT/ITS tools for rail traffic	LP - NASPA
Multimodal terminals efficiency and optimisation	D 3.2.4. PA for multimodal nodes/terminals efficiency and optimization: ICT/ITS tools for rail traffic	PP6 - Port of Rijeka
Multimodal terminals efficiency and optimisation	D 3.2.5. PA for multimodal nodes/terminals efficiency and optimization: new WMS (warehouse management system) model	PP16 - CODOGNOTTO POLAND
Assessment of market opportunities to reinforce or activate new multimodal services	D 3.2.6. PA for activation/optimization of multimodal services: new services port gateway/freight village	PP4 - ZAILOG AND LP - NASPA
Assessment of market opportunities to reinforce or activate new multimodal services	D 3.2.7. PA for activation/optimization of multimodal services: modal shift from road to rail	PP16 - CODOGNOTTO POLAND AND LP - NASPA
Alternative fuels deployment	D 3.2.8. PA for ECO-innovations on alternative fuels deployment: development of new e-mobility	PP8 - FREEPORT OF BUDAPEST (WITH PP9 - PUBLIC PORTS JSC INVOLVEMENT)
Alternative fuels deployment	D 3.2.9. PA for ECO-innovations on LNG deployment as alternative fuels: logistic model for LNG	PP16- CODOGNOTTO POLAND
Energy efficiency solutions	D 3.2.10.	PP5 - LUKA KOPER

Topic	Pilot action - Deliverable	Partner responsible
	PA for ECO-innovations on energy efficiency deployment: test of energy efficiency in cargo handling	
Energy efficiency solutions	D 3.2.11. PA for ECO-innovations on energy efficiency deployment: tests on transport operations	PP14- LOKOMOTION (assessment by PP7 - RCH)
Trainings	D 3.2.12. Testing of training pathways for energy efficiency deployment in the rail sector - RCH (report is not needed)	PP7 - RAIL CARGO HUNGARY
Trainings	D 3.2.13. Testing of training pathways for energy efficiency deployment in the rail sector - Lokomotion (report is not needed)	PP14- LOKOMOTION

Why do you have to do it?

The main important findings of the pilot actions are recorded and organized in specific documents in order to support the transferability process. It means that we have to prepare a summary assessment report of all pilot actions - which is the responsibility of WP responsible partner (Freeport of Budapest - PP8). The summary report will be based on the inputs you provide in your inception, mid-term and final reports about your pilot actions. Inputs from you are provided for the final report in the format specified by this document.

2. PILOT ACTION IMPLEMENTATION

PROJECT PARTNER	PP15 - Codognotto Polska
PILOT PROJECT NAME:	<p>TalkNET Thematic work package 3 D 3.2.7.</p> <p>PA for the activation/optimisation of multimodal services: modal shift from road to rail.</p>
PILOT PROJECT ID:	O.T3.7

3. DESCRIPTION OF THE PILOT ACTION

NEEDS AND CHALLENGES ADDRESSED BY THE PILOT ACTION (max. 2000 characters)

This document aims at providing a clear overview of the logical sequence at the basis of the Action Plan related to the designing of a short/medium-range intermodal transport service in the Central Europe microregion to be subsequently implemented in a Pilot Action in relation to the cluster 5 of the project: “Energy Efficiency in Nodes/Terminals”. The reader will find a detailed description of the key elements characterizing the challenge to perform a modal shift from road to rail through the designing and testing in a real market environment of an intermodal service.

COD Polska has identified as feasible node for the definition and testing of the service the North of Italy, on the East-West axis, being included in the Central Europe Programme Area and offering, under current market conditions, the framework conditions to perform the pilot action.

In a similar way to the implementation logic adopted for PA D.T3.2.9 “Alternative Fuels. LNG Deployment”, COD PL, exploiting by the mother company and the whole Codognotto Group network, will identify the most suitable clients to obtain shipments to be shifted from road to rail on short/medium-range distances.

Given the situation and the challenges to be tackled, a set of logical steps have been listed, including key actors, roles and tasks to be performed in order to achieve a defined result, i.e. the testing and further assessment and evaluation of the activation or optimization of the modal shift from road to rail in Central Europe.

BEST PRACTICES AND ACTION PLANS SUPPORTING THE PILOT ACTION (max. 2000 characters)

D.T.1.5.2., D.T.1.5.3., D.T.1.5.4. and D.T.1.5.5. outlined the importance of the development of the railway connections for NAPA ports improvements. Freight forwarders as Codognotto Poland are then motivated to support such developments when they could guarantee a competitive advantage on the market. Modal switch for the long haul can guarantee important CO2 reductions, good practices mapped showed how such solution can bring a considerable added value for shippers with a remarkable awareness for sustainability.

PURPOSE OF THE PILOT ACTION (max. 1000 characters)

Based on TalkNET analyses in relation to logistics node efficiency optimisation. One of the most important aspects outlined is that Intermodality is still underused compared to the actual current and future capacity in case of adequate investments aimed at further development or modernization of the infrastructure existing at the present. To achieve the above-mentioned results, COD PL defined and tested a new short/medium-range intermodal service in the programme area, in order to evaluate the effective possibility to offer such kind of innovative and sustainable service. The system model designed and tested within the pilot action lead to an as much as possible reduction of pollutant emission and to a more sustainable working situation for professional drivers. The operational solution answered concretely to shippers needs and public policies objectives.

CONTENT AND OUTPUT OF THE PILOT ACTION - DESCRIPTION OF THE DELIVERABLE (max. 15000 characters)

Codognotto Polska sp. z o.o. studied in depth the possibility offered by the market context, matched with the *desiderata* of potential customers in order to set-up a short/medium range intermodal service in the Northern Italy area.

COD PL tested a service that could count on different assets involving other players such as Codognotto Italy, PKP, Mercitalia and IKEA.

Codognotto managed regularly four block trains in the Adriatic Baltic corridor connecting Gliwice with Piacenza. The train cannot count on a full exploitation of its capacity. Furthermore, there is a potential need a railway service connecting north east of Italy and north west. The general idea was to exploit the service already ongoing in order to design a new railway service and allow a modal shift between road to rail.

The new service tested has been executed as follow:

- Train loaded in Gliwice stopped in Pordenone;
- Three wagons transporting empty swap bodies were unhooked;
- Three prefilled swap bodies already on wagons were hooked in substitutions to the previous ones. The transported goods were generated in Pordenone area and needed to be transported in Piacenza area;
 - The train stopped in Piacenza and were fully unloaded and partially loaded;
 - When the train arrived in Pordenone the train stopped once again. Three wagons transporting goods directed from Piacenza to Pordenone where unhooked and new wagons hooked;
 - One of the mile were successfully managed with LNG trucks in order to reduce the CO2 impact of the road transport necessary to reach the distribution points.

Summing up the new service can be presented and further improved as follow:

- first-mile, from supplier warehouse or warehouses to multimodal loading freight village using LNG powered HDV
- short/medium-range transport via rail on the East-West Axis
- last-mile, from the unloading and reloading freight village using LNG powered HDV

As aforementioned, the potential flow selected for the field-test was the Northern Italy on the East-West Axis. This due to the outcomes of a combined market and operational analysis providing evidences that this geographical area conditions are of interest for potential detailed analysis of feasibility. Furthermore, the train loaded in Gliwice stops naturally in Pordenone so there is no need for changing the normal routes in order to create the new one.

According to recent technical researches concerning the environmental impact of combined LNG/Intermodal transport solutions carried out by the Codognotto Group through the elaboration of OEMs data combined with environmental impact indicators of the various transport solutions provided by international databases the potential benefit resulting from this solution is in the range of:

KG emitted per Km. per 24 Tons Loaded

	LNG (Road)	Diesel (Road)	Rail	Ferry
CO ₂ :	2,835	3,192	0,936	1,098
NH ₄ :	0,041	0,048	0,072	
N ₂ O:	0,061	0,072	0	

In accordance with the table above, the potential pollutant emission's reduction compared to a standard full road and Diesel Transport mission for a total mileage of 550 km. (the distance in km from Trieste to Turin along the East-West Axis of Northern Italy) is the following:

Combined LNG first & last mile / Rail

Set-Up A	Km.		LNG (Road)	Diesel (Road)	Rail	Tot.
First-mile	50	CO2	283,5	0	421,2	704,7
Rail	450	CH4	4,1	0	32,4	36,5
Last-mile	50	N2O	6,1	0	0	6,1

Combined Diesel first & last mile / Rail

Set-Up B	Km.		LNG (Road)	Diesel (Road)	Rail	Tot.
First-mile	50	CO2	0	319,2	421,2	740,4
Rail	450	CH4	0	4,8	32,4	37,2
Last-mile	50	N2O	0	7,2	0	7,2

**Pollutant emission reduction
Comparison Set-Up A and B**

	Kg. per Km. per 24 Tons.	%
CO2	-35,7	-4,82

CH4	-0,7	-1,88
N2O	-1,1	-15,28

From an operational point of view the tested was conducted with no major problems. The stops took two hours (one hour for each stop). The stops did not affect the transit time in a considerable way and the results in the of emissions were really good even if the normal impact of the utilisation a railway solution were mitigated by the short haul (more kms by rail means better results from the emission point of view).

WERE THERE ANY DEVIATIONS IN TERMS OF THE CONTENT OR PURPOSE OR ANY PART OF THE PILOT ACTION - IF YES, PLEASE DESCRIBE THE REASONS (max. 2000 characters)

No deviations recorded.

4. STAKEHOLDER'S INVOLVEMENT

HOW THE STAKEHOLDERS WERE INVOLVED (max 2000 characters)

The main important result in terms of stakeholder's involvement can be recorded by the involvement of IKEA and Electrolux. IKEA was involved at the beginning of the proposal presentation and the goods transported were IKEA ones. The results of the pilot were then presented to Electrolux.

The operational results were very positive nonetheless the stakeholder's involvement also outlined limitations for a deployment phase:

- Lack of flexibility for loading and unloading (affecting all intermodal transport but the gap seems to be more evident in the presence of short haul normally characterised by great flexibility and bookings managed one day in advance)
- A punctual analysis of the cost has not been made at this stage. Nonetheless, the two modal shifts characterising every intermodal flow could characterise a considerable cost increase
- Impossibility to shift a flexible number of UTI

Such mix between indirect and direct costs would determine a considerable boundary for a deployment phase. Such potentiality has been blocked in this phase due to COVID19 crisis.

According to pilot's characteristics, the following target groups/beneficiaries have been identified and considered as relevant, in view of a potential scalability of the piloting test performed.

1. Shippers. The contacted shippers will provide loads, for the demo intermodal transports. Codognotto Polska sp. z o.o. will contact firstly the shippers with whom there are already consolidated relationships and regular flows for the selected section;
2. Group Intermodal Transport Management. Identified dispatchers, part of the Codognotto Group will take care of the set-up, operative management and ongoing monitoring of the test, in order to ensure a high level of service quality. Dispatchers, according to their role, will seamlessly monitor the progress of the intermodal transport, providing indications and information when requested;
3. Sales department. The involvement of the Sales dept. at Global level will ensure an effective management of the relationship with the shippers, offering an adequate support to the Partner in presenting the piloting activity and its specificities;
4. Marketing & Innovation Area. The involvement of the Marketing and Innovation dept. will ensure an effective management of the relationship with both the shippers and the OEM, offering an adequate support to the Partner in presenting the piloting activity and its specificities;
5. Group Purchasing. The Purchasing Area will be involved in case of need in order to set-up the operative framework between the Codognotto Group and the Railway Operators involved in the test;

5. TRANSFERABILITY OF PILOT ACTION RESULTS

TRANSFERABILITY OF THE PILOT ACTION RESULTS (max. 2000 characters)

The pilot has two potential degree of transferability accordingly to the different fields of application.

Short haul rail service:

In this case the main characteristics to verify are:

- disposability of an active railway service already sustainable;
- verification of potential short haul flows of goods along the train routes;
- shippers with a positive attitude towards eco sustainable solutions

LNG + Short Haul rail service

- carries with LNG trucks available
- LNG or BIO-LNG refuelling stations available