

Test on Intermodal Transport Case

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Introduction of Work Package 4

Smart logistics pilot and test of profiles calculators

A significant share of the companies that deal with transport and supply chain management in Europe recognise interoperability and information exchange as a relevant challenge.

Information exchange implementations have so far mostly taken place at an individual mode level, often triggered by traffic management needs. To achieve higher efficiency levels, large companies have significant costs in making sure that their supply chains are connected. Many SMEs lack the capability and resources to properly interoperate and collaborate with other companies.

In this context, WP4 aims at showing the benefits brought by the TRANSPOGOOD platform developed in WP3.

The platform is implemented as a set of collaborative information services that are feasible (technically and economically) and will be tested by a pilot application in private as well as public scenarios representing the Programme Area.

The main expected outputs of WP4 are the following:

- To deploy a connectivity infrastructure that supports low-cost / easy to use options. The project will setup this connectivity infrastructure that consists in the TRANSPOGOOD platform, building on the expertise and the technologies developed in INTERMODADRIA IPA project;
- Enhanced supply chain planning: the TRANSPOGOOD platform (specifically on the basis of profile calculators and MOS e-procurement tool, designed in WP3) will provide tools to plan and manage transport and supply chain services on a multi-provider and door-to-door context. It will be tested in port as well as in intermodal transport mission scenarios;
- Analysis of “as is” and “to be” situation to verify the benefits brought by the implementation of TRANSPOGOOD platform to port authorities, transport operators and SMEs;
- Pilot demonstration and performance assessment in order to verify how the stakeholders and users’ requirements are met;
- Cost savings;

- Environmental benefits from using fewer resources in terms of reduction of carbon footprint;
- Improved reporting in terms of KPIs available on the use of resources.

1. Introduction of Deliverable D4.3.3

1.1 The test on intermodal transport case

After having analysed the different possible options thanks to the profile calculators, the operator will now start an e-procurement process with the Shipping Company. The dimensions of flow per period will be highlighted and other specific requirements taken into consideration. The operator, after this process, will fix an agreement with Motorway of Sea operator and monitor performances. Then a multi actor/multimodal supply chain scenario will allow the stakeholders involved to benefit for visibility of information and improvement of performances (cost, time, carbon footprint).

This pilot will function as an example for the other stakeholders. Furthermore, lastly, a video will be produced to create an effective communication.

Characteristics of the Action Test

The panel of the most representative flows

Methodology for the choice of the representative flow

The Action test is carried on from the point of view of the “customer” of the multimodal services: the road hauler.

Regarding this choice, please note that the final total costs for the Italian manufacturer (which represent the exporter/importer of goods to and from Croatia and its hinterland - the so called “shipper”, e.g. a shoe manufacturer, a wood plant or a steel industry) that makes an agreement with a logistics group (3PL), are commonly higher than the ones reported in the paragraphs below, since the 3PL must apply its own margin for the service of “agency” carried out for the management of the road hauler (the sub – carrier).

However, the point of view of the Action must be properly the road hauler (mostly Companies are settled in the Balkan countries) and not the 3PL because it is the one who physically have to embark on the ferry and it is the stakeholder that therefore must definitely choose to carry out the "modal shift". Then, the haulers are acquiring more competences and few of them are becoming new 3PL operators. This is the reason why the action test is carried out basing on the tariffs for the hauler and not on the different ones applied by the 3PL logistics operators to the shippers.

The freight rates of the options that will be shown will refer to a complete Full Truck Load transport for a standard truck (total weight 40 t, trailer of 13,6 m) and they are the average in the market in the considered period.

The Action test is carried out selecting the most appropriated case among the three cases deemed representatives of the road flows between Balkans and Italy: one case is in the "core" area (Croatia) and two "border line" cases are in the regions surrounding Croatia (e.g. Bosnia Herzegovina).

Before continuing in the description of the Action in the "core" area, the three areas will be now focused.

The "core" area in Croatia

The "core" area identified is in Dalmatia; in this case, the origin is the inner Dalmatian city of Knin.

This city is selected for its manufacturing sector and in particular for its significant industrial presence in the metallurgical field.

As we will see later, destination of the chosen flow is Reggio Emilia, in Italy, another area with relevant presence of steel companies.

Other "Border line" areas in Bosnia Herzegovina

In addition to Croatian "core" area, other border line areas must be mentioned. In fact, it must be clear that ports of Croatia serve not only the Country but also the neighboring Countries such as Bosnia Herzegovina.

For this reason, a settlement of the "Federation of Bosnia and Herzegovina", Zenica, the center of gravity between the wood and textile districts, is considered also an origin/destination of relevant truck flows.

Finally, another significative "border line" case is also mentioned, namely that of the industrial areas of Northern Bosnia and Herzegovina, in Republika Srpska: the center of gravity of this area may be considered the city of Banja Luka.

Specific requirements of the flow selected (Knin – Reggio Emilia)

Deepening the “core area” of Croatia

The area chosen for the Action test is the “core” one, the mentioned area of Knin. From this area relevant truck flows between the Italian and Croatians steel companies are reported.

The dimensions of flow per period will be now highlighted and other specific requirements taken into consideration.

Test of platform is carried on by a logistics operator based in Trieste, Italy.

Characteristics of the “Knin – Reggio Emilia” flow

The steel products trade flow between Croatia and Italy, selected for the Action Test, outcomes in a relevant flow of trucks.

At least dozens of trucks per month with origin/destination the Knin area from and to steel Companies in Italy are reported by several logistics operators. Reggio Emilia, in Italy, is an area in which are settled important steel Companies. This is the reason why the stakeholder choose to test the Platform on the Knin – Reggio Emilia route.

To date, the biggest part of this trade is carried on by operators choosing the road mode only.

This is for many reasons, but the lack of information - for the logistics operator - about the savings in terms of costs (but also in terms of Carbon footprint and other externalities) seems the most relevant.

Transpogood Platform helps to overcome this lack.

Test is carried on a complete Full Truck Load transport for a standard truck: total weight 40 t, trailer of 13,6 m, total length of 16 m.

General information of the Test

Below are detailed the information of the Action Test (figure 001)

Test N.1: September 19, 2019

Hour: 07:00

Name of the tester: PLT EXPRESS (LOGISTICS OPERATOR)

City: 34139 Trieste, Italy

Address: Viale dell'Ippodromo, 2/2b

Contact Person: Mr Fabrizio Borgogna (on behalf of PLT EXPRESS)

Email: fabrizio@genito.org

Industry: STEEL

Traffic flow description: Flows from Steel companies settled in Knin, Croatia

Type of goods: Steel

Period of the procurement: semester

Transport Type: FTL

Type of truck: Tautliner or Open

Total weight of the truck: 40 t

Total length of the truck (truck + trailer): 16 m

Average quantity per shipment: 24 tons

Frequency of shipment: 12 shipment/month

Origin: KNIN, 22300 CROATIA

Destination: REGGIO EMILIA, 42121 ITALY

Figure 001: Characteristics of the test action (Source: <https://transpogood.eu/>)

Departure *

Arrival *

Start Date *

Vehicle Long (mt) *

Reefer
 Second Driver

DEPARTURE:	22300 - 33/6080 - Knin () - HR
ARRIVAL:	42121 - Via Guido Panciroli 2 - Reggio nell\'Emilia (Reggio nell\'Emilia) - I
VEHICLE LONG:	16mt
ADDITIONAL:	

Analysis of the different possible options

Introduction note

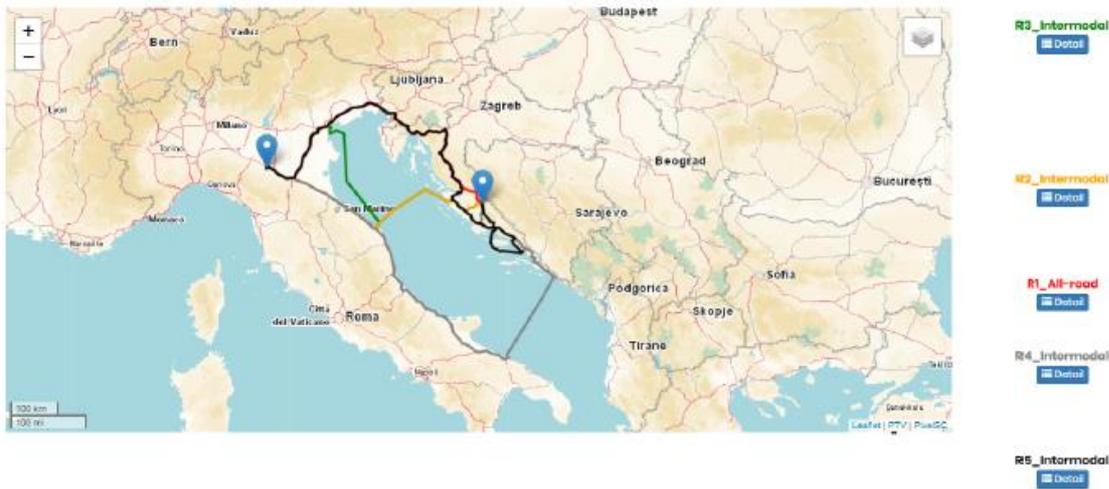
Transpogood platform provided to the tester all the possible options: road mode only option and intermodal option.

Providing to the tester all the possible option for the route Knin – Reggio Emilia

Figure 002 shows all the possible options for the road hauler for the selected flow (road only – intermodal options).

The platform is connected to all intermodal services between Italy and Croatia; therefore, it provided all the possible intermodal options. It is the road hauler that must decide which one of these is the most appropriate for its own business.

Figure 002: Options provided by the Platform to the tester (Source: <https://transpogood.eu/>)



From Knin to Reggio Emilia the hauler may choose between:

- R1 - All road option: this option is the currently most operated one
- R2 – Intermodal option (sea – road combined transport) between the ports of Zadar and Ancona
- R3 – Intermodal option (sea – road combined transport) between the ports of Zadar and Venice via Ancona
- R4 – Intermodal option (sea – road combined transport) between the ports of Dubrovnik and Bari
- R5 – Intermodal option (sea – road combined transport) through the port of Split

Multimodal supply chain scenario

Introduction

The multi actor/multimodal supply chain scenario allows the stakeholder involved (the logistics operator) to benefit for visibility of information and improvement of performances.

Of course, the Intermodal R3, R4, and R5 options can be not considered practicable by the Logistics operator.

The stakeholder will choose the R2 option with savings in terms of cost and externalities.

Cost, time, carbon footprint of the R2 option adopted by the test

Figure 003 shows the details of the lengths, CO2 emissions, Total Costs, Time and Multimodal services of the options provided by the platform with reference of the selected test flow (Knin – Reggio Emilia).

Figure 003: Characteristics of the routes provided by the Platform (Source: <https://transpogood.eu/>)

	 KM	 CO2	 Total Cost	 Time	 Ferry
R3_Intermodal Detail	737 km	532	1.812,00 €	1 Days and 01:27:00	Port of Zadar 2020-09-14 22:00:00 Jadrolinija / Jadrolinija Ancona - Terminal 2020-09-15 15:30:00 Minoan / Minoan Lines Price: 1249,00 €
R2_Intermodal Detail	552 km	650	953,00 €	15:57:00	Port of Zadar 2020-09-14 22:00:00 Jadrolinija / Jadrolinija Price: 309,00 €
R1_All-road Detail	742 km	780	1.112,00 €	12:22:00	Price: n/d
R4_Intermodal Detail	1232 km	1821	1.851,00 €	1 Days and 02:40:00	Port of Dubrovnik 2020-09-14 22:00:00 Jadrolinija / Jadrolinija Price: 324,00 €
R5_Intermodal Detail	1110 km	2200	2.118,00 €	20:37:00	Split Solin Luka (Split) 2020-09-15 22:00:00 Jadrolinija / Jadrolinija Price: 324,00 €

As reported before, the Intermodal R3, R4, and R5 options can be not considered practicable by the Logistics operator.

All road option (R1) would cost to the hauler €1.112, with more than 12 hours of driving (therefore at least 2 stops are required).

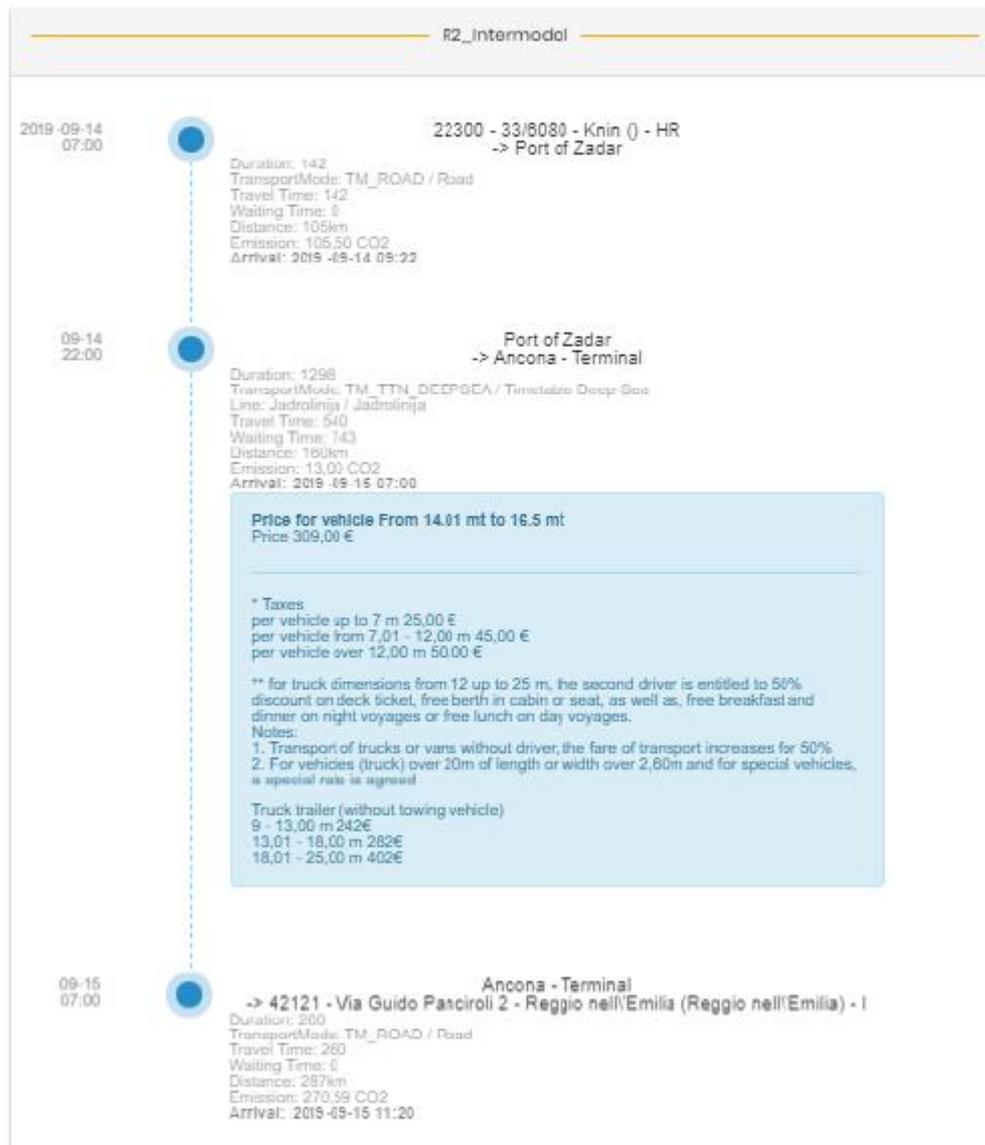
Value of CO2 emission for the R1 option is 780.

The intermodal option R2 is chosen by the hauler for the savings in terms of costs (almost €150 less than R1 option).

The R2 option allows also savings in terms of CO2 emissions (value: 660).

Figure 004 shows the details of the R2 option.

Figure 004: Details of the R2 intermodal option (Source: <https://transpogood.e>)



E – procurement process with the Shipping Company

Compensating the lack of information about intermodal services

Transpogood platform allowed the tester to see the existence of other options besides the “road only” option.

Lack of information about the existence and the costs of multimodal options is one of the causes of the low use of the sea services currently.

This option appeared more convenient for the road hauler therefore an Agreement with the Shipping Company may be realized.

Agreement with the Motorways of Sea operator and monitoring of performances

The operator (road hauler Company) will fix an agreement with Motorway of Sea operator and will monitor the performances. With reference of the test carried on, the agreement has to be realized with Jadrolinija Shipping Company.

The agreement must take into consideration the quantity of trucks involved in the Zadar – Ancona link (in this case, since period chosen is 1 semester and flows consists in 12 roundtrips per month: more than 140 shipments).

Other possibilities of e – procurement

The platform gave to the operator not only the possibility of a direct agreement with Jadrolinija. The “get a quote” function allows also the possibility to make a “tender”, connecting with the most widespread e-procurement and tendering platforms (figure 005).

Figure 005: E-procurement platforms available for tendering (Source: <https://transpogood.eu/>)

TenderEasy AB	www.TenderEasy.com
TENDERTOOL	www.tendertool.com
TICONTRACT	www.ticontract.com
Timocom	www.timocom.com
TeleRoute	www.telerroute.com
123Cargo	www.123cargo.eu
Wtransnet	www.wtransnet.com
WeLoadYou	www.weloadyou.com
Trans.eu	www.trans.eu
Cargoagent	www.cargoagent.net
Cargopedia	www.cargopedianet
Transpobank	www.transpobank.it

Conclusions

The main purpose of this document was to provide the test of the platform carried on by a logistics operator actually involved in the flows of trucks between Croatia and Italy and on a real trade relation (Knin – Reggio Emilia).

The results of the test show that the intermodal solution is preferred by the road hauler, since it allows noticeable savings in terms of costs (almost €150/truck).

Transpogood allows moreover the possibility of direct agreement with Shipping Company and the availability of tendering all the transport flows in the period thanks to the E–procurement platform connected.

This test constitutes a concrete example for the other stakeholders.

Furthermore, in addition of the contents reported in the Document, a video will be produced, to create an effective communication.