CORELOG
COORDINATED REGIONAL LOGISTICS

INTERREG IIIB CADSES

Quaderni
della Direzione generale
Reti infrastrutturali,
Logistica e Sistemi
di Mobilità

3

MEASURES & ACTIONS FOR COORDINATED REGIONAL LOGISTICS POLICIES

Regione Emilia-Romagna
Assessorato Mobilità e Trasporti
in collaborazione con
istituto sui trasporti e la logistica
fondazione

Nella stessa collana:

1. **LA QUINTA INFRASTRUTTURA**
   La formazione nella logistica: ricerca sui fabbisogni e standard
2. **Proceedings of the Workshop on Multimodal Transport and ICT:**
   Results and Recommendations

Other publications:

1. **Campagna di rilevazione sui comportamenti e sulle preferenze dei cittadini in materia di mobilità**
2. **Linee guida per una strategia regionale di LOGISTICA URBANA**
3. **TERRITORIO IMPRESE LOGISTICA**
   Stato dell'arte e linee di intervento regionale
4. **ISTITUTO SUI TRASPORTI E LA LOGISTICA**
   Business Plan
5. **PROGETTO CITY PORTS**
   Rapporto intermedio
6. **PORTI REGIONALI**
   Orientamenti per la pianificazione urbanistica e per l 'esercizio delle funzioni regionali
7. **CITY PORTS PROJECT**
   Interim Report
8. **PROGETTO CITY PORTS**
   Logistica urbana a Bologna: elementi per un progetto
9. **PERISHABLE GOODS LOGISTICS**
   Feasibility analysis and ICT solutions
10. **LOGISTICA DELLE MERCI DEPERIBILI**
    Gestione della Supply chain e soluzioni ICT
    Analisi di fattibilità del Distripark di Ravenna

MEASURES & ACTIONS FOR COORDINATED REGIONAL LOGISTICS POLICIES

This publication has been prepared thanks to funds of the European Project
CORELOG
COordinated REgional LOGistics
EU Initiative Interreg III B CADSES NP

Edited by Direzione Generale Reti Infrastrutturali, Logistica e Sistemi di Mobilità, Regione Emilia-Romagna
In cooperation with Istituto sui Trasporti e la Logistica Fondazione (ITL)
In cooperation with Servizio Stampa e Informazione della Giunta Regionale Emilia-Romagna
In cooperation with Maribor University for the scientific coordination
In cooperation with Széchenyi István University for the publication financing

Scientific coordinators:
Rino Rosini (ITL)
Stane Bozicnik (University of Maribor)

Scientific revisions:
Sergio Bologna

Project Coordinator:
Rino Rosini (ITL)

Project manager:
Alberto Preti

Working group:

Regione Emilia-Romagna
Giuseppe Luppino
Marco Mobrici
Eleonora Morganti
Paola Pacini

PricewaterhouseCoopers Advisory S.r.l.
Raffaele Cestari
Max Lehmann
Cinzia Quartararo

Austrian Mobility Research FGM-AMOR
Gerfried Cebrat

Heraklion Port Authority S.A.
George Liokalos
Manos Shinakis
Elsa Koukouloudi

Aristotle University of Thessaloniki
George Giannopoulos
Elli Krassopoulou

Széchenyi István University
Peter Foldesi
Peter Nemeth

University of Maribor
Tomislav Letnik
Jasmina Cvahte

Institute of Logistics and Warehousing
Maciej Tumasz
Piotr Nowak
Marcin Hajdul

Government of Styria
Michael Azodanloo

Project Partners:

Also in cooperation with:

INDEX

INTRODUCTION

Chapter 1 THE METHODOLOGY OF THE TRANSNATIONAL SURVEY FOR COORDINATED REGIONAL LOGISTICS POLICIES

Chapter 2 EXECUTIVE SUMMARY: THE SURVEY RESULTS

Chapter 3 FULL REPORT: THE DETAILED ANALYSIS OF THE POLICIES

3. A INCENTIVES

A.1 INCENTIVES/SUBSIDIES FOR INTERMODAL TRANSPORT
A.2 INCENTIVES FOR THE DEVELOPMENT OF SHORT SEA SHIPPING (SSS) AND OF MOTORWAYS OF THE SEA
A.3 INCENTIVES FOR LOGISTICS TRAINING

3.B IMPLEMENTATIONS

B.1 IMPLEMENTING PUBLIC PRIVATE PARTNERSHIP (PPP) SCHEMES IN THE FIELD OF LOGISTICS
B.2 ESTABLISHMENT OF A LOGISTICS AGENCY
B.3 DEVELOPMENT OF DATABASES ON LOGISTICS
B.4 LOGISTICS CRITERIA AS PART OF SPATIAL PLANNING PROCEDURES
B.5 ACTIONS FOR LOGISTICS IMPROVEMENTS

3.C HARMONISATIONS

C.1 HARMONISING LOGISTICS PROFESSIONAL KNOWLEDGE
C.2 ROAD CARRIER REGULATIONS

3.D FINAL EVALUATION: NEED FOR HARMONISATION OF LOGISTICS MEASURES AT THE EU LEVEL

Annex 1 SURVEY FORMAT

Introduction

Rino Rosini and Alberto Preti

This publication stems from the work of the CORELOG project (Coordinated Regional Logistics), financed within the EU Initiative INTERREG IIIB CADSES NP (Central, Adriatic, Danubian and South-Eastern European Space) and coordinated by Regione Emilia-Romagna in cooperation with the Institute for Transport and Logistics (ITL).

The project work is focussed on the development of coordinated regional policies in transport and logistics which can grant companies' competitiveness and the territorial sustainability of transport and logistics activities.

The "coordination" concept refers to different levels.

First of all it concerns the shortening of the gaps between the business world's expectations and needs and the public authorities' actions in transport and logistics. The goal is to stimulate a cooperation in policy making between institutional bodies, responsible for policy making, financing and investment decisions and manufacturing companies, logistics providers, transport operators, transport & logistics nodes, whose decisions and supply chain strategies strongly affect the spatial pattern and the modal split of freight transport.

On a second level coordination means having in mind that different public policies in transport and logistics at different territorial levels (EU, State, Regional Authorities, Local Authorities) must always have common targets, which are companies' competitiveness and the reduction of transport and logistics territorial impacts. In this sense a cooperation among policy makers at different territorial and institutional levels is needed in the policy making process.

Finally the coordination concerns the cooperation among companies in logistics management. Companies usually manage logistics in individual terms, in the view of maximising the value of their own logistics activities. The project wants to show how cooperation among companies, in terms of vertical integration of the supply chain activities and horizontal cooperation among companies in specific clusters and industrial areas, can bring higher profits and environmental gains in terms of reduction of transport externalities. This the trigger from which innovative public policies can target companies in a win-win perspective.

The project addresses the above mentioned targets in a two-years working path articulated in five main phases:

I As-is review and analysis of the "key driving forces" of supply chain management strategies of companies, in the view that these drivers and the companies' industrial and distribution strategies at European level are the base of transport and logistics territorial impacts.

II Collection of companies needs in transport and logistics by means of the set up of Regional Forums on Logistics, as condensing points of private logistics needs compared to public actions.

III Analysis of the present and of the needed public policies in transport and logistics by means of a gap analysis which involves policy makers.

IV Proposal of regional policy guidelines promoting logistics cooperation and coordinating different types of policies impacting on transport and logistics in regions (spatial planning, industrial, transport, technologic and logistics policies).

V Implementation phase, addressing the effectiveness of the proposed policies by pilot test (pilot projects) involving manufacturing, transport and logistics companies, with a bottom-up approach.

In this stream of activities this book is related to phase IV and it presents the results of a survey carried out at EU level to rank the future needed public actions in transport and logistics. The book presents proposals of regional policies in transport and logistics on the base of the understanding of companies supply chain management strategies and of the state of the art of public policies. It postpones to a future publication the presentation of the pilot project implementation results.

The main objectives of the survey are:

- Get a clear definition of policies and action priorities in the logistic and freight transport fields, at a regional, national and international level.
- Get access to the opinion of an international panel of high level experts about the validity of both already implemented and not applied yet logistics measures.
- Enlarge the scope of the EU debate on the role of public authorities in logistics development, also by making specific proposals.
- Gain a better knowledge about the overall perception of the "state of the art" of the logistics coordination measures at the EU level.

The publication is the result of the cooperation of all the CORELOG project partners which worked under the coordination of Regione Emilia-Romagna, the Institute of Transport and Logistics and of the University of Maribor.

The following chapters present the survey methodology (Chapter 1), the executive summary of the survey results (Chapter 2), the detailed survey results (Chapter 3). Annex 1 presents the survey questionnaire.

The hope for this publication is that it can be an useful instrument to plan logistics policies in EU regions.

Chapter 1

The methodology of the transnational survey for coordinated regional logistics policies

The strengthening of transport and logistics polices and the definition of relevant policy measures have become an increasingly difficult tasks due to the fast changes in the transport and logistics markets and to their international dimension. In order to be able to represent these changes into the definition of policy priorities the CORELOG survey structure was based on the following pillars:

- **International dimension**. The survey was carried out in six different countries (Austria, Greece[1], Hungary, Italy, Poland and Slovenia) in order to represent different logistics situations and merge them into a EU policy strategy document.

- **Wide panel of high level experts**. The questionnaire has been submitted to a wide panel of high level experts in transport and logistics (ninety-six experts), from all the six countries involved.

- **Panel diversification**. The ninety-six contacted experts had different core occupations, in particular:
  - Public governments and authorities (22 respondents)
  - Business environment (23 respondents)
  - Consultancy and research (28 respondents)
  - Education (23 respondents)

  That allowed to bring together and compare different points of view and different perspectives on logistics policies priorities.

- **Bottom-up approach**. The policy measures which underwent the experts' opinion were selected by the project partners on the base of an analysis of companies' supply chain management strategies and of public policies in transport and logistics in the project partners' regions, which are diversified in terms of logistics status and trends.

- **Open attitude**. The experts had the chance to propose in an open way further public policies in order not to limit the policy proposals to the ones identified by the project partners.

The following table reports the experts who participated to the survey, according to the 4 different expert categories and to the project partners that involved them. The belonging to the categories was chosen by the experts' themselves on the base of their core occupation.

[1] For Greece the survey was carried out in two regions: Crete (G1) and Central Macedonia (G2). Therefore, though the experts present a national and EU profile, some specific considerations on the regional traits are reported.

	PUBLIC	BUSINESS
Emilia-Romagna Region (Italy)	**D'Agostino Zeno** (Logica) **Poggiali Adriano** (Regione Toscana) **Rosini Rino** (Regione Emilia Romagna)	**Galloni Gilberto** (Interporto Bologna and Europlatform) **Giudici Gilberto** (Geodis - Zust Ambrosetti) **Leonida Giovanni** (Assologistica) **Rivi Antonio** (Sacmi Forni S.p.a.) **Rossi Luca** (Confindustria Emilia-Romagna)
University of Maribor (Slovenia)	**Novak Şimon** (Ministry of transport of Republic of Slovenia) **Herenda Dean** (Ministry of transport of Republic of Slovenia) **Sever Robert** (Transport and communications association)	**Rejec Valter** (Iskra avtoelektrika d.d.) **Hofabuer Erik** (Skupina Viator&Vektor j.s.c.) **Svetek Rok** (Schenker d.d.)
Aristotle University of Thessaloniki (Greece)	**Papadopoulos Christos K.** (Thessaloniki Port Authority S.A.) **Makris Dimitris** (Thessaloniki Port Authority S.A.) **Saounatsos Haridimos** (GAIAOSE SA) **Sarigiannis Iakovos / Samakovli Katerina** (Development agency of eastern Thessaloniki - ANATOLIKI S.A.)	**Tassovali Angeliki** (SINDOS S.A.) **Vlachogiannis Emmanuil M.** (Thessaloniki chamber of commerce and industry) **Kiriakoreizis Christos** (PHILKERAM-JOHNSON S.A.)
Heraklion Port Authority (Greece)	**Psarakis Emamnuil** (Heraklion port authority) **Karkanakis Vasilleios** (General secretary of Heraklion chamber of industry and commerce) **Amargianiatkhs Ioannis** (Crete region – Directorate of planning and development)	**Apostolakis Konstantionos** (Agricultural union of Heraklion) **Sapalidis Vasileios** (transport operator) **Detorakhs G.** (manufacturing company)
FGM – AMOR (Austria)	**Bernhard Fritz** (Amt der Steiermärkischen Landesregierung, FA 18A) **Burian Gerhard** (Bundesminsiterium für Wirtschaft und Arbeit) **Azodanloo Reza Michael** (Land Steiermark)	**Pscheidl Klaus** (RISO Regionale Impulsgesellschaft m.b.H.) **Bartmann Martin** (RHI AG) **Sever Kurt** (Graz- Köflacher Bahn und Busbetrieb GmbH)
Széchenyi István University (Hungary)	**Civil servant I** **Civil servant II** **Civil servant III**	**Marek József** (Penny Market Hu) **Fáry János** (HUNGAROKOMBI Ltd) **Businessman I**
Institute of Logistics and Warehousing (Poland)	**Młyńczak Małgorzata** (Marshal Office of Wielkopolska Voiwodschip, Department of Regional Development) **Piotrowski Grzegorz** (Municipal Roads Network Authority) **Zakrzewski Artur** (Marshal Office of Wielkopolska Voiwodschip, Department of Infrastructure)	**Kowalewski Tomasz** (Wielkopolskia Logistic Centre Konin – Stare Miasto S.A.) **Kubiak Paweł** (Cargosped sp. z o.o.) **Jeleń Rafał** (PCC Rokita SA)

RESEARCH/CONSULTING	EDUCATION
Camerinelli Enrico (European Supply Chain Council) **Casini Giuseppe** (Italcontainer S.p.a.) **Cestari Raffaele** (PricewaterhouseCoopers S.r.l.) **Guiglielminetti Paolo** (PricewaterhouseCoopers S.r.l.) **Monari Paola** (SATA S.r.l.) **Gentili Paolo** (PricewaterhouseCoopers S.r.l.) **Senn Lanfranco** (Università Commerciale L. Bocconi) **Tos Riccardo** (PricewaterhouseCoopers S.r.l.)	**Bonfatti Flavio** (Università di Modena Reggio-Emilia) **Ciciotti Enrico** (Univeristà Cattolica di Piacenza) **Marcucci Edoardo** (Università degli Studi di Urbino) **Piacentini Gian Franco** (Univeristà Cattolica di Piacenza) **Rullani Enzo** (Università Ca' Foscari, Venice)
Viljenka Godina (Economic Institute Maribor) **Mojca Tomšič** (Institute of traffic and transport Ljubljana d.o.o.) **Bojan Rosi** (University of Maribor)	**Božičnik Stane** (University of Maribor) **Lep Marjan** (University of Maribor) **Rodošek Vlasta** (University of Maribor)
Bikos Athanasios (TREDIT S.A.) **Ayfantopoyloy Georgia** (Hellenic Institute of Transport) **George Haralampous** (Center of Research and Technology-Hellenic Institute of Transport) **Tyrinopoulos Yannis** (Centre for Research and Technology Hellas / Hellenic Institute of Transport)	**Naniopoulos Aristotelis** (AUTh /Transport system research gorup) **Dimarelos Vasilis** (Aristotele's University of Thessaloniki) **Nathanail Teti** (University of Thessaly / Transportation Engineering Sector)
Georgiadis Kostas (Consultant) **Papadopoulos Yiannis** (Consultant) **Aronis Constantinos** (Consultant)	**Tsitamis Dimitris S.** (Thessaloniki port authority) **Koukouloudi Elsa** (Consultant/ external lecturer of City college Thessaloniki)
Witzmann Ursula (Vianova Verkehrsconsulting GmbH) **Cebrat Gerfried** (FGM) **Erber Jürgen** (KWI) **Smekal Gerald** (ZLU)	**Kummer Sebastian** (Institut für Transportwissenschaften und Logistik, WU Wien) **Burian Renate** (Logoplan) **Schrampf Jürgen** (Econsult) **Hübner Renate** (Universität Klagenfurt, IFF-Fakultät für Interdisziplinäre Forschung)
Duma László (ADVERSUM Ltd). **Nagy Zoltán** (Universitas Györ kht.) **Consultant I**	**Földesi Péter** (Széchenyi István University) **Education I** **Education II**
Gubała Marek CEL Sp. z o.o. **Hajdul Marcin** (ILIM) **Foltynski Marcin** (ILIM)	**Adam Redmer** (Poznań University of Technology) **Fechner Ireneusz** (Higher School of Logistics – Poznań) **Mindur Leszek** (Warsaw School of Economics)

Comment: If the expert have not authorised the publishing of his/her name only the category is reported.

Table 1
The contacted high level experts in the CORELOG survey

The experts were asked to judge a set of transport and logistics measures. In order to set the final list of the measures to be evaluated by the experts, the measures were first proposed by the project partners. On a second step the University of Maribor and Emilia-Romagna Region have modelled the survey around ten internationally comparable measures, grouped into three types of interventions and merging the partners' contributions, as reported in the following table.

A. INCENTIVES	A.1 Incentives/subsidies for intermodal transport A.2 Incentives for the development of short sea shipping and of motorways of the sea A.3 Incentives for logistics training
B. IMPLEMENTATIONS	B.1 Implementing public private partnership (PPP) schemes in the field of logistics B.2 Establishment of a logistics agency B.3 Development of databases on logistics B.4 Logistics criteria as part of spatial planning procedures B.5 Actions for logistics improvements
C. HARMONISATIONS	C.1 Harmonising logistics professional knowledge C.2 Road carrier regulations 11th transversal measure: Need for harmonisation at the EU level for each of the above mentioned logistics measures.

Table 2
The analysed measures

The survey asked to the experts to express their opinion (both with closed and open questions) on the following main issues for each of the different measures:

- Target bodies of the measure (who should the measure address).
- Specific thematic fields to which applying the measures.
- Experience on existing practices and on the measure implementation stage (was the measure implemented and what is the success level, which gaps in the measure implementation).
- Constraints in the measure implementation (such as technical, organisational, normative, financial, economic).
- Most suitable sources of finance for the measure.
- Role of the public bodies (which specific actions should be activated by public authorities).
- Significance/importance of the individual measure (ranking of the measures in each of the 3 categories on a five levels scale from null to top).

It must be pinpointed that for each measure partially different questions were asked on the base of the single measures characteristics. For a detailed view of the survey structure please see Annex 1, which is the questionnaire sent to each of the above reported experts.

In order to interpret the survey results, as reported in the following pages, some considerations on the methodological approach must be pinpointed. Many of the answers do not present a high level of discrepancy. This can be due to the fact that the evaluators were often allowed to choose the priority's level without expressing a ranking order. Moreover this survey on logistics measures dealt with a wide array of different topics (in order to give to the readers a wide array of policy proposals) and the level of experience of the experts on the different measures and topics may vary. In case of a lower expert's knowledge on some of the specific technical questions, we may expect that the average value prevails and that homogenous answers are given. Therefore on some of the answers we expect that this issue influenced the presence of low discrepancies among the answers given by each expert.

Taking into account these considerations, in some cases the analysis of the answers drove to technical priorities and conclusions even on the base of small value discrepancies among priorities and related answers. That was also possible thanks to the interpreting of the open replies given by the experts. The analysis has been drafted in a mainly descriptive form, focussing on the aggregated results and identifying any possible occurring trend in the answers, both according to the different categories of experts contacted and to the different countries taken into consideration. This approach was developed on the base of a specific sum up of all the experts answers which were analysed at national level for each of the respondents categories, then merged into a transnational structure and analysed at transnational level. The follow figure indicate the analysis methodological process.

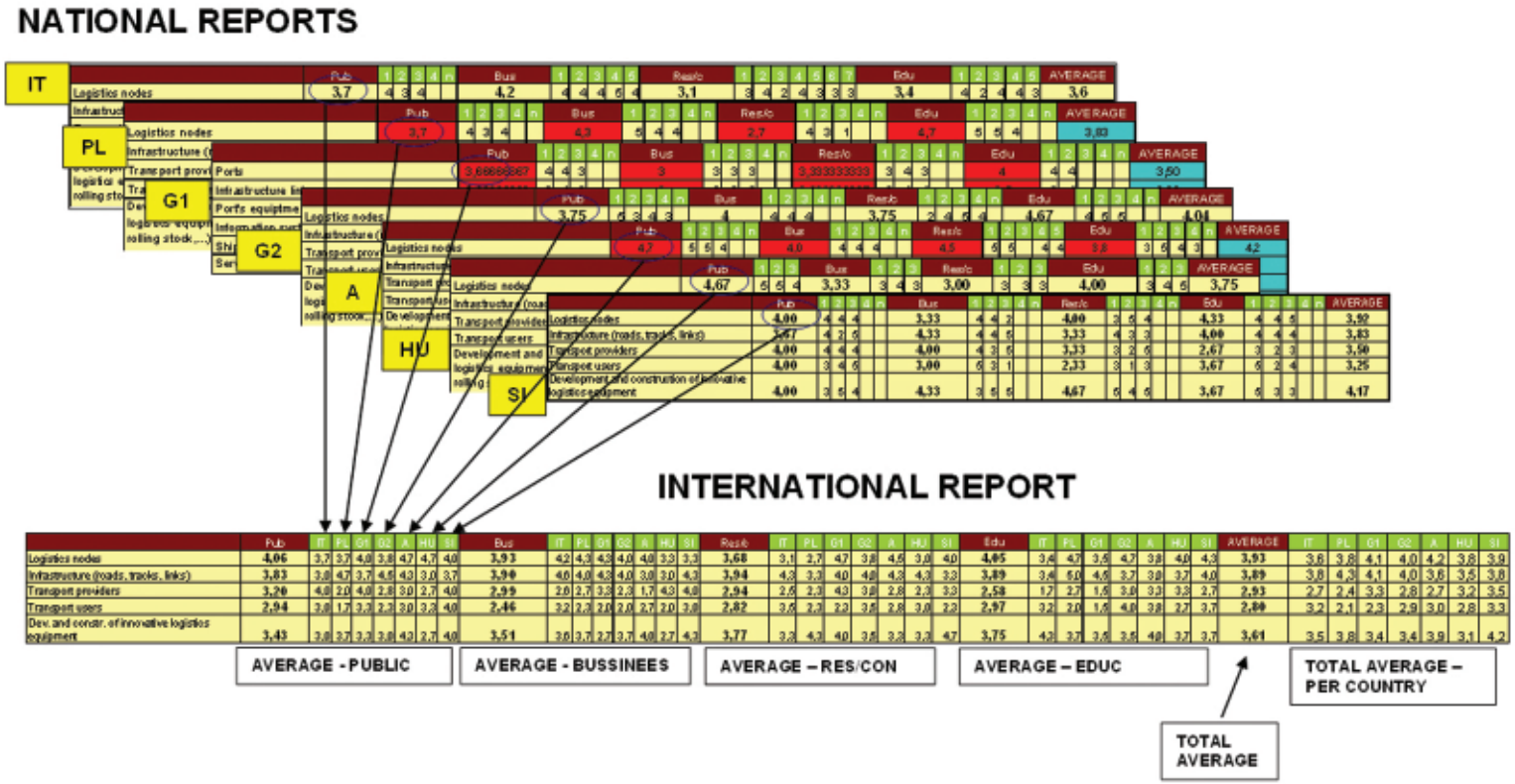


Figure 1
The process of merging the national answers into a transnational structure

Chapter 2

Executive summary: the survey results

This chapter presents the survey results grouped on the base of the three categories of interventions: **incentives**, **implementations**, **harmonisations**.

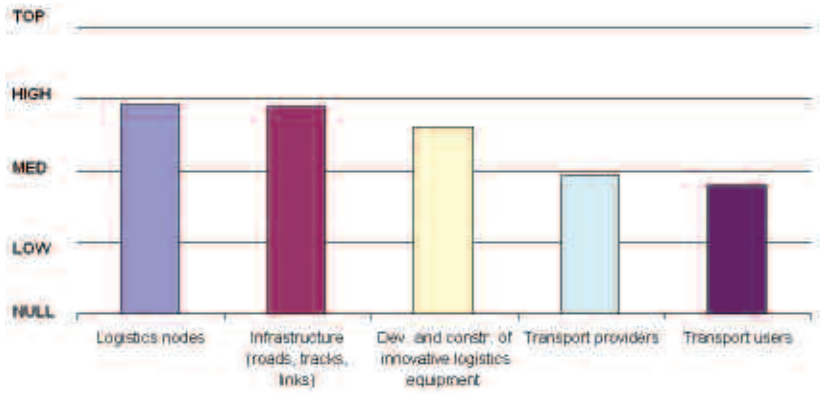
The first part of this chapter concerns **INCENTIVES**, which were referred to **intermodal transport** (measure A.1), **short sea shipping & motorways of the sea** (measure A.2) and **logistics training** (measure A.3).

Concerning **incentives for intermodal transport**, to be distributed to the bodies involved in the development and managing of intermodal logistics operations and nodes, they were given the first priority among the incentive measures (followed by short sea shipping & motorways of the sea and by logistics training, which ranked as 3rd).

Intermodal transport seems to be the hot topic for the public interventions and incentives. This is due to the fact that there is a high need to shift freight transport from highly saturated road networks to railways networks and sea transport, in order to lessen transport negative effects. Yet reaching this goal appears to be an hard task especially in consideration to the fact that there is a the lack of experiences and in particular of success stories in this type of measure. 53% of the answers of the experts indicate that no measures in incentives/subsidies to intermodal transport have been implemented yet. However there is a survey evidence that the world of the public authorities considers that an improvement in the diffusion of incentives for intermodal transport is necessary. Successful examples of implementation are not pinpointed by the experts, with very few exceptions in the business and education categories.

Incentives should be mainly directed to nodes and infrastructures, but also to the promotion of innovation in logistics operations and equipments. Incentives for transport users and provides do not have on average high priority.

Figure 2
Targets of public subsidies/incentives for intermodal transport



With respect to the specific targets of incentives (which were evaluated separately for each type: nodes, infrastructures links, transport providers, transport users), priority is given to constructing nodes, carrying out feasibility studies for nodes and to interventions for nodes-networks connections. The following figure reports on the specific targets of intermodal incentives.

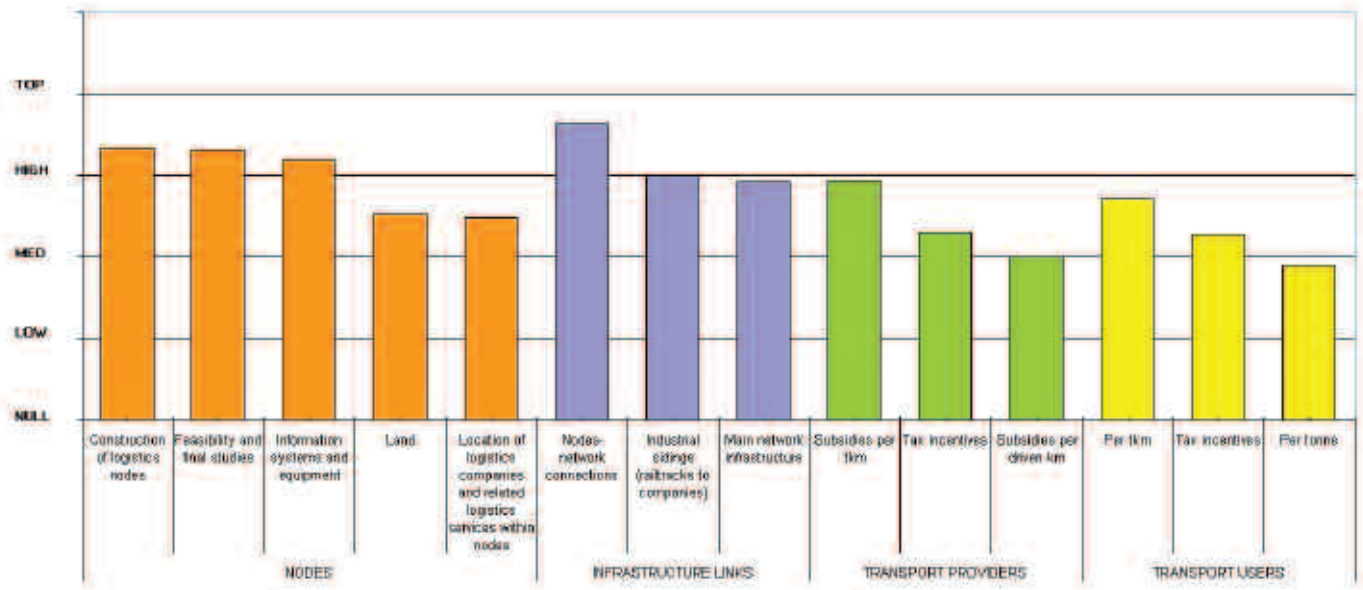


Figure 3
Specific targets of public subsidies/incentives for intermodal transport

Geographical breakdown shows that countries characterized by high economic development feel a deeper need to increase nodes and infrastructure availability. Another important issue emerging from the analysis of the answers is represented by the need for incentives to the start-up of intermodal initiatives, supported by public authorities.

Constraints in the implementation of the incentives are mostly normative (lack of regulations and procedures) and financial (lack of funds), with homogenous answers among the different categories of experts.

Concerning **incentives for Short Sea Shipping (SSS) and Motorways of the Sea (MoS)** the survey answers present a strong consistency with those concerning intermodal transport. In particular the consistency concerns:

- An almost complete lack of experience in the measure implementation (83% of the respondents confirmed it). There is still a strong need of best cases and models on financing and developing SSS and MoS.
- The presence of normative and financial constraints; SSS and MoS are relatively new concepts and in general they are not included in funding programs by national governments (due also to lack of culture on these topics). Economic constraints are not considered important as potential market demand is seen as growing.
- A strong priority on nodes-infrastructural links connections and on ports equipment (also in terms of information systems).

One of the most critical success factors seems nevertheless to be represented by the choice of the target groups of the future financing and promotional initiatives. In this case, and differently from the previous measure on intermodal incentives, logistics providers are considered as priority beneficiaries, because they are operational integrators which can grant an effective development of SSS and MoS with a co-ordination role among the local sector operators to manage in an effective way the supply chain. On the other hand a low importance is assigned to incentives to road hauliers.

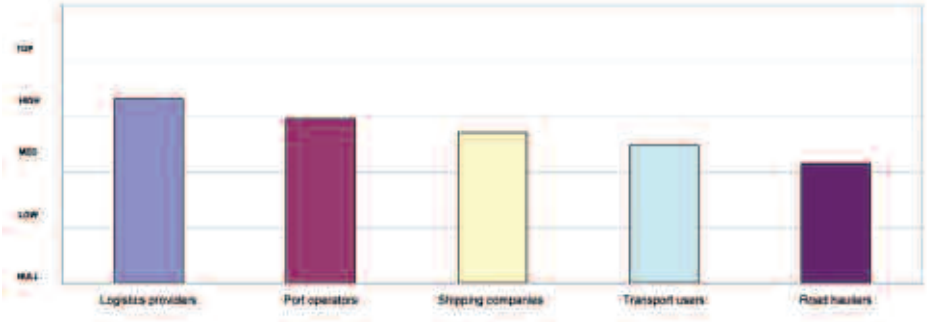
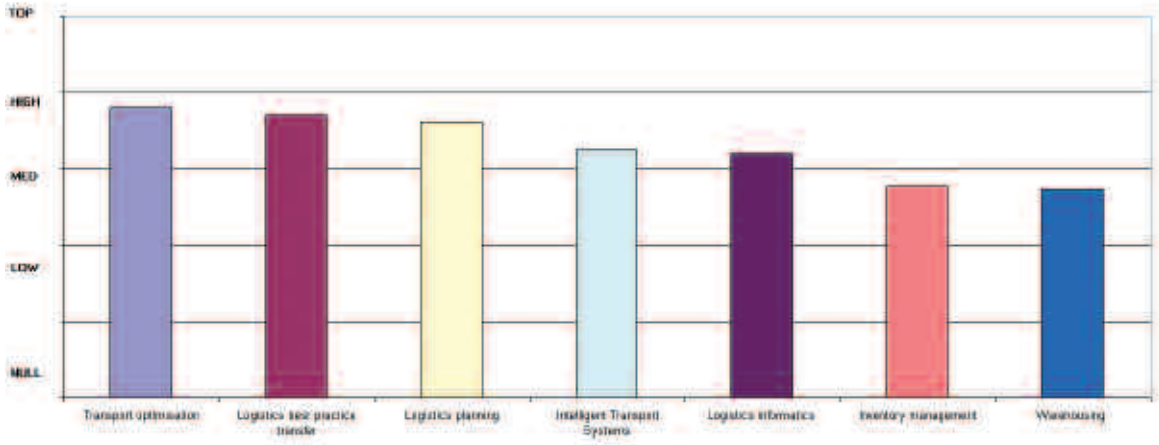


Figure 4
Priority beneficiaries of incentive to SSS and MoS

The third measure concerns **incentives for logistics training**. About half of the experts pinpoint that incentives for logistics training have been experimented, nevertheless with few success examples.

Concerning the most relevant topics for training incentives all the topics proposed to the experts present a good ranking, as shown in the following figure.

Figure 5
Priority Topics for Training Programmes



The first three priority topics are represented by transport optimisation, best practice transfer and logistics activities planning. ICT, inventory management and warehousing follow in the priority ranking. ICT is in particular targeted in the answers of the educational and business categories. The survey results prove that there is a consciousness among the experts on the presence of margins of improvements which can be gained through the building of logistics professionals which can better plan logistics resources, adopt logistics innovations and better control the logistics processes: that means a shift from a daily management of logistics emergencies and logistics unexpected events to a pro-active and structured approach in logistics management. That also means there is a need of enrichment of the logistics function and of the variety of its jobs.

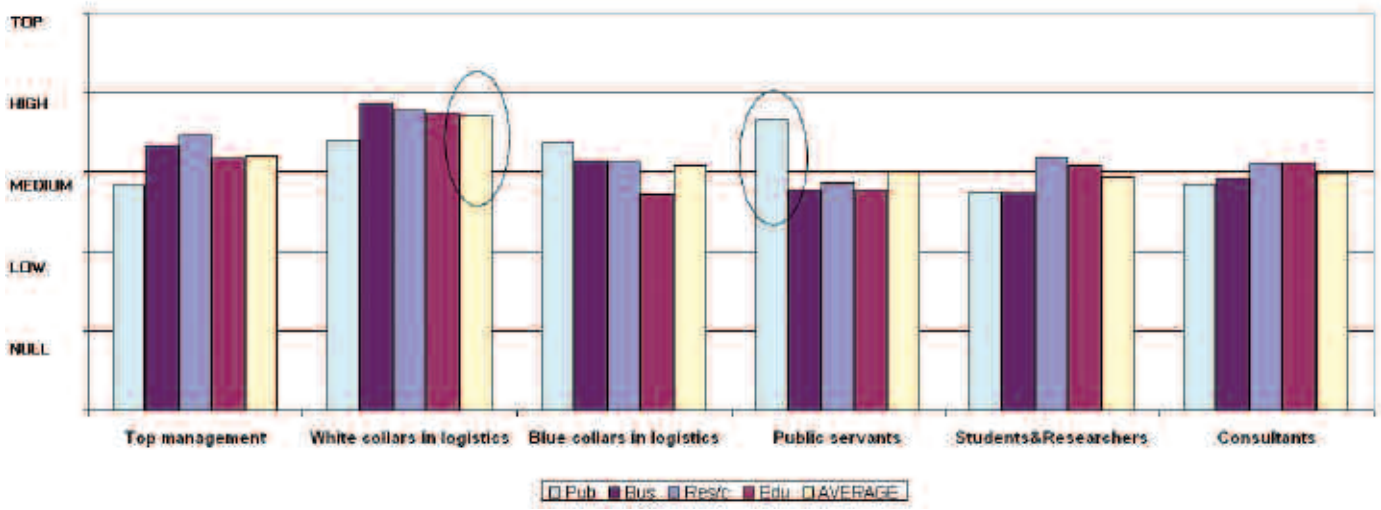
According to the interviewed experts, the first selected target group for training should be white collars, though training in logistics seams to be needed for all the proposed categories. Training courses for public servants seam to be a strong priority which is expressed by public servants themselves, as reported in Figure 6.

The funding for training should primarily stem from the European Union and from the national governments, and minimally from direct users (trainees). This issue seams to confirm the priority of promoting training in logistics. Registered constraints concern, further than financial resources availability, the lack of training models and the economic risks due to possible market demand reductions.

The second part of this chapter concerns the **IMPLEMENTATION OF ACTIONS FOR LOGISTICS REGIONAL POLICY DEVELOPMENT.** Different measures were presented to the panel of experts, who were asked to rank them. The implementation measures, ranked by priority order on the base of the experts results, are:

i. **B.1 - Implementing public private partnership schemes in the field of logistics.**

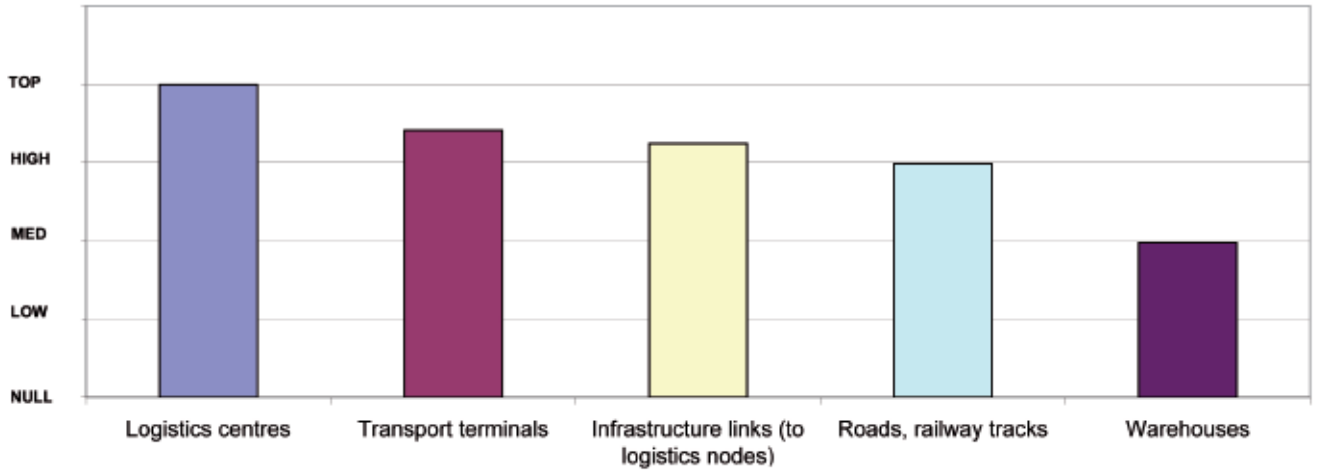
Figure 6
Priority target groups for training



ii. **B.5 - Actions for logistics improvements.**
iii. **B.4 - Spatial planning for industrial areas settlement.**
iv. **B.2 - Establishment of a logistics agency.**
v. **B.3 - Development of databases on logistics.**

Public private partnership (PPP) schemes (measure B.1) in logistics have been implemented only up to 44% of experts' answers, but it is ranked as the first priority among implementations measures, thus confirming the high need for public incentives to infrastructural developments. Of this percentage of past experiences, the greatest part is covered by consolidated economic conditions countries (e.g. Austria and Italy). The main target of PPP is infrastructural development and investments (79% of respondents) more than logistics and intermodal services development (21%). This reply is homogeneous in all the survey countries. In particular the priority is set for logistics centres (in order to afford high area acquisition costs), followed by transport multimodal terminal. This view is agreed by the public and private/business spheres, thus pinpointing a significant track for future public private co-operations in nodes development within the regional and national/EU transport and logistic backbone. The following figures reports the priorities within the infrastructures investments through PPPs.

Figure 7
Priority target groups for training



Concerning the services development, training, the management of existing logistics facilities and research are seen as three priorities of PPP. Concerning logistics education this conclusion confirms the public role in financing training which was previously stated.

Constraints to PPPs are generally technical (lack of experience and models) and normative. Normative constraints are identified in particular in Greece and Slovenia.

Concerning actions for logistic improvements (measure B.5), the experts were asked to judge a sub-set of measures concerning possible improvements in logistics management in manufacturing and logistics companies. Very high priority is assigned to all actions included in the analysis, thus proving the need of operational improvement in logistics management (please see the next chapter for the detail on the single sub-measures).

The maximum priority is given to the cooperation among companies in order to share and exchange best practices. This answers pinpoints the need for new logistics organisational solutions in companies and it pinpoints that best practices transfer can generate imitation process among companies and represent a valuable instrument to generate innovation. Other important actions are represented by the improvement of ICT for logistics activities rationalisation, especially in terms of supply chain optimisation and in terms of the relevant better integration of the supply chain (improvement of logistics activities in manufacturing/trading companies by means of better coordination of their suppliers and customers).

The main constraints in the measures development are organisational, more than financial or technical. In particular all the measures for which a horizontal cooperation among companies is envisaged (such as the cooperation among transport providing SMEs for strengthening their market position and optimizing transport services, the rationalisation of logistics activities by means of networking of manufacturing companies in the field of logistics procurement and sales) present a higher level of organisational constraints. The highest feasibility rate is on the other hand assigned to solutions helping manufacturing companies in finding optimal logistics providers and services. It is also worthwhile to say that answers vary in a significant way depending on the respondents' country.

In order to implement the identified actions, a public-private promoter and supporter is generally reputed as optimal (maybe due to the more formalised way of operating of the public sector and to the dynamic approach typical of private promoters). Public subjects should be a fundamental part in financing and supporting the initial feasibility studies and tests, while private subjects should be involved in the large scale implementation of the actions. This answer is shared in all the respondents categories and in all the survey countries.

Further than the above mentioned measures and actions, experts were also asked to assess specific interventions. Joint transport ordering systems and the cooperation among companies in managing joint shipments for outbound logistic optimisation are considered the most important actions. Nevertheless generally, technical and organisational constraints are widely perceived and confirm the constraints in fostering horizontal cooperation among companies.

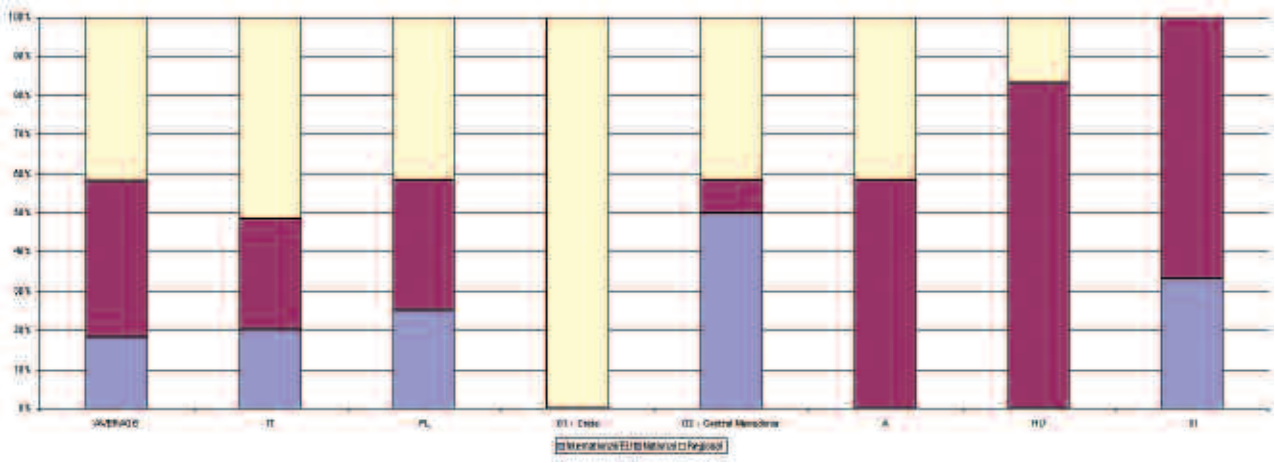
Logistics criteria for land and territorial planning (measure B.4), for example in terms of putting logistics requirements within the start-up documentation that a company must supply for its location in industrial areas, is quite diffused (52% of the experts answers). In particular the survey emphasises that in order to achieve sustainable logistics solutions at regional and national level, logistics criteria should be adopted in spatial planning, in the planning and set up of industrial areas and in the choice of the companies to be located in production areas. This conclusion pinpoints that there is a general consensus on the need to address the generators of freight traffics in order to optimize logistics activities and on the need to ensure a rationale and effective connection between the industrial areas and the regional transport

and logistics infrastructural backbone.

If logistics criteria represent driving factors in order to choose the companies to be located in industrial areas and in order to reduce traffics, the analytical choice of these criteria represents a major challenge. Amongst the various criteria to be taken into account to locate companies in industrial areas, great priority is assigned to the willingness of companies to share logistics facilities, more than to criteria concerning the belonging to the same industries or the sharing of common procurement and destination geographic areas. We think this issue pinpoints how business relations of companies cannot be a criteria for their settlements, as they quickly change. Therefore an attitude to co-operation with other companies in logistics should be the priority criterion.

The establishment of logistics agencies (measure B.2) is quoted as existing measure only in 20% of the answers. Successful events of start-up of a logistics agency are in Italy and Poland. The main functions of the agency should be the promotion of best practices transfer, the logistics policy framework definition and the training standards definitions. The agency ownership should be assigned to public-private subjects, while on the organisational sphere there are no real priorities for a national or regional horizon. International structures are mostly excluded. A specific proposal is an organisational structure with a national central unit and some regional branches. The following figure reports the agency level according to answers at country level.

Figure 8
The logistics agency level: Regional, National or International.



The agency stakeholders should be mainly associations of enterprises and business clusters, logistics service providers and logistics nodes. National and regional governments are judged less important, though among these two the priority is on the latter. This answer seams to pinpoint an agency's role related to the transport and logistics industry at regional and national level. We can interpret this results as a need for logistics marketing and industrial strengthening felt by the business world who is willing to take part to the agency.

Constraints in establishing an agency are mostly normative: the logistics agency concept is not common and consequently guidelines are not clear and often incoherent, as also the models suggested for their establishment. Normative constraints are especially felt in Greece and Slovenia. Also technical and financial obstacles are perceived within the whole experts panel, maybe due to the absence of a real planning for their development.

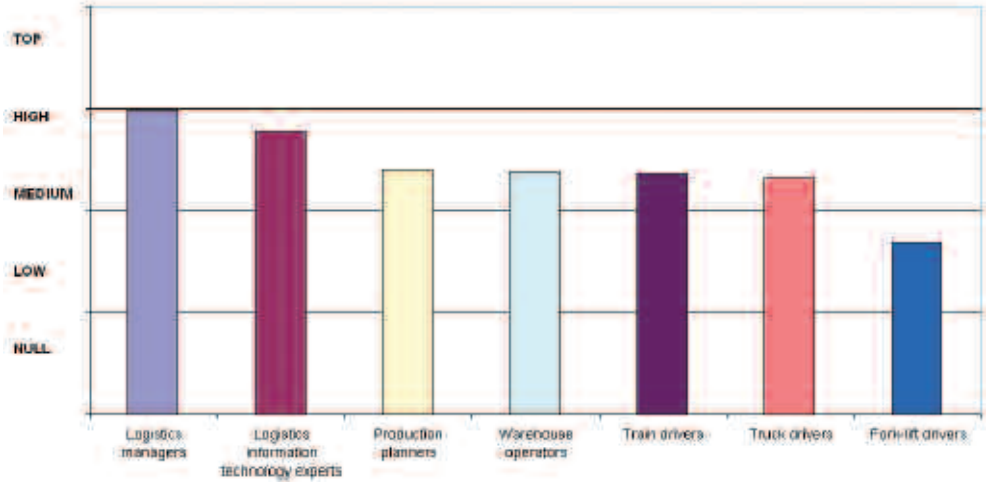
Development of logistics databases (measure B.3) is the last measure of the implementation category and it is infrequent and almost without successful implementation cases. In general, respondents affirm that logistics data have been collected, but data organisation and classification is poor and the availability of information on specific topics is partial. The users' needs are not satisfied by the present performance showed by Eurostat, and nor regional and national databases can guarantee satisfying results (performances are even worse if the territorial level detail is increasing to the national and regional levels). Some incoherence is present between Eurostat and national/regional data. In particular, lacks in data availability for analysis and logistics planning are found by users. Database users require information on logistics capacities (warehouses, container terminals, logistics centres), transport providers characteristics (capacities and characteristics of rolling stock, transport capacities per mode, destinations, transport frequencies), but also about studies and researches, logistics training and education (in terms of courses and related contents, available financing). The need for formalised data and information is mainly underlined by the research and education sectors. The constraints in this area are both technical (data collection and mining tools), normative (information harmonisation, communication transparency and visibility) and financial (data collection and classification costs).

The third part of this chapter concerns **HARMONISATION** needs at European level for logistics measures, interventions and regulations.

Due to the presence of different logistics environments and of particular logistics conditions in the various involved countries, **training, education and logistics professional knowledge** (measure C.1) are not formalised and structured. Therefore it is necessary to find some common definitions at EU level on jobs in logistics and on the relevant needed skills. In particular the diffusion of logistics professionals certifications is quite absent and needed; only in Austria and Poland successful results can be found. At the moment in Europe, some harmonisations according to ELA standards are being carried out even if the level of completion is presently low.

The public sector has witnessed the greatest part of implementations of such a measure, but results have been modest. The professional knowledge harmonisation need is felt in particular for managers, logistics executives and logistics ICT experts. The involved subjects are all high level specialists, with specific responsibility in logistics development, management and performance. The operative jobs are considered less relevant.

Figure 9
Priority jobs in transport and logistics to be harmonised at EU level



The differences in the answers given by the various countries can be considered as an index of different logistics development, upgrade and harmonisation needs. For example Greece requires a complete harmonisation for all levels, including operative ones, in order to develop the whole logistics area in a coherent way.

The constraints are mainly normative (lack of procedures) and technical (e.g. CVs are not defined in a single way), while the experts believe that financial constraints are not significant.

The second measure evaluated by the experts with reference to harmonisation need concerns **road carriers regulation** (measure C.2). The measure has been deeply analysed, due to road transport diffusion in Europe. The regulations harmonisation has been rarely implemented (less than 50% of answers) and with poor results. However, the answers show that in some countries in the Eastern part of Europe this measure has been carried out in several cases. The issues to be harmonised should concern fiscal measures for environmentally friendly vehicles and working days and hours. Secondly, attention is given to fees on fuel and insurance. Among the respondents, the public and education sectors underline the need for environment friendly

policies. Constraints in harmonising road transport are mainly normative (lack of evaluation procedures, shared norms, common standards), technical (control on vehicle circulation compliance under restricted standard regulation) but also economic (side effects on labour market and competitiveness). All of these constraints are perceived as high and that confirms that measures in this direction have been implemented in rare cases.

Finally the experts were asked to judge the overall need for harmonisation (11th transversal measure) for all the listed measures of the three groups. The experts assign the maximum harmonisation priority to incentives for intermodal transport and to logistics professionals standards and knowledge. Secondly attention is given to actions for improving logistics activities and for implementing and regulating PPP schemes. It is suitable to say that the EU harmonisation of procedures for establishing logistics agencies is not seen as a priority and that the potential agencies seam to have a national and regional focus more than a EU one.

As general conclusion, after having analysed the answers given by the experts and having evaluated the results, it should be underlined that, mostly concerning the constraints, the public sector shows very different perspectives compared to business sector. While the public sector offers a positive idea of policy actions, the business seems to highlight a low effectiveness on practical implementations of these actions and a slight presence of the public policy itself. This can be considered as a crucial element, showing how the lack of communication between different sectors can bring to different points of view and consequently a sort of stillness in the interactions between them to increase logistics efficiency at all levels. In this sense the CORELOG project seams to have addressed a hot topic in logistics development: cooperation among public and private bodies in logistics.

Chapter 3

Full report: the detailed analysis of the policies

This chapter presents more in detail the survey results in the three categories of measures. A specific paragraph on each measure is presented.

3. A INCENTIVES

Incentives include 3 types of measures:

Progetto

A.1 Incentives/subsidies for intermodal transport

A.2 Incentives for the development of short sea shipping and of motorways of the sea

A.3 Incentives for logistics training

MEASURE A.1 INCENTIVES/SUBSIDIES FOR INTERMODAL TRANSPORT

In general intermodal transport may be funded and/or publicly subsidised in the fields of infrastructures and/or services. Concerning incentives to services, governments' position in the liberalisation of the railway market may be very important in the way incentives and subsidies are provided. Concerning infrastructure nodes, like inland terminals, incentives and subsidies may be different if the management is public or private. As a general message, before entering the specific experts' answers, **to enforce competition can be considered a major incentive for intermodal transport, both at the infrastructures and services levels**.

First of all the respondents indicated their country experience with the implementation of incentives and/or subsidies for intermodal transport. **Over half of the respondents (53%) have indicated that there were no actions taken in the field of incentives or subsidies for intermodal transport in their countries**. In Poland and in the Crete Region in Greece (G1) such measures have not been reported by the interviewed experts. On the other hand in Austria, Hungary and Italy, over 50% of respondents reported on implemented measures, also with the presence of successful cases.

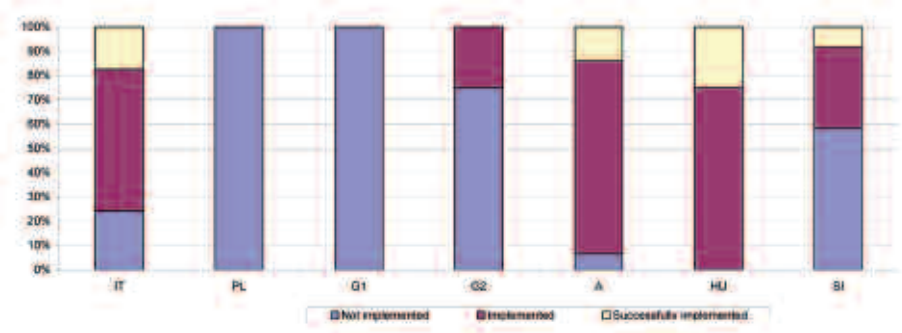


Figure 10
Experiences in subsidies/incentives for Intermodal Transport: breakdown by countries

Representatives from the public sector reported on the existence of implemented measures in significantly higher proportion than the other groups. The highest proportion of non-implemented measures is reported by representatives from the research sector. Concerning the success of the implemented measures, representatives from the business sector, surprisingly, reported a higher proportion of successfully implemented measures than the public and research sector.

The implementation level is higher in countries with high developed infrastructure networks; where basic infrastructure needs a modernisation or are still under construction, actions supporting intermodal transport have lower priority.

The questions made to the experts listed several potential targets for public support, in particular: logistics nodes, infrastructure (roads, tracks, links), development and construction of innovative logistics equipment, transport providers and transport users, asking the respondents to assess their importance ranking on the scale null, low, medium, high and top.

Logistics nodes were ranked as the most important target, being closely followed by linear infrastructures development. Development of innovative equipment was ranked third, not lagging much behind the most important targets. **Transport users and providers seem to be less important targets**; however, once the basic conditions in infrastructures development are fulfilled, the importance of subsidies and incentives for providers and users should grow.

Construction of new infrastructures, like gateways for intermodal services, and new regulations for the existing facilities, improving the homogenisation of quality standards, of pricing, of administrative and communication procedures at a whole network level, are measures of equally high importance for the development of intermodal transport.

However there were differences in the general assessment by different countries. Hungary, for example, ranked incentives/subsidies for transport providers third, before the development of innovative equipment. Poland ranked targets on nodes and infrastructure links the highest, and Slovenia assigned the highest priority to the development of innovative solutions. Apparently, these high priorities were assigned to the targets which are not sufficiently developed and they pinpoint specific national and regional situations.

Representatives of the public sector are apparently most in favour of the construction of nodes and linear infrastructures and they assessed the ranking of incentives for transport users and providers much lower. Surprisingly, **representatives from business sector ranked incentives to transport providers and users (obviously being businesses themselves) lower than all other groups** and are in lines with the public sector's answers.

Among **proposals** made by the experts, we would point out the following ones:

- **Italy**: Subsidies should be provided only to start up activities (e.g., new rail line, introduction of new services, etc.) and for a limited time period.
- **Poland**: The development of infrastructure (especially road and rail) is currently the most important task for Wielkopolska Region. Also logistic nodes is an important target. However, it has to be noted that the public authorities representatives estimate incentives in the field of logistic nodes as not so very important. Since the public administration will decide about the way of usage of regional structural founds, it seems that these targets will not be financed from these source. Financing of logistic nodes and equipment will be possible for national structural founds especially from Operational Programme "Transport".
- **Central Macedonia (G2):** Special emphasis should be given to funding of the rail infrastructure; the road infrastructure should obtain lower priority.

Intermodal transport can also be supported by a range of other measures affecting indirectly the shift from road to rail, like a more **strict control over the road hauliers** (driving times and driving behaviours, maintenance of the vehicle, security standard), the **track pricing**, the **competition in the traction market**, the **improvement of the "last mile" services**, the **punctuality of trains**, the **technical interoperability of engines**, the **optimisetion of custom's operations**. These topics seems to be further subjects for public support.

Specific targets of public subsidies/incentives for intermodal transport

Under this question, respondents were asked to assign priorities to four groups of potential targets of subsidies/incentives to intermodal transport: **nodes, infrastructure links, transport providers and transport users**. These groups were further divided into specific fields for incentives/subsidies, as reported in the following table.

TRANSPORT PROVIDERS	TRANSPORT USERS
Subsidies per tkm	Per tkm
Subsidies per driven km	Per tonne
Tax incentives	Tax incentives

NODES	LINKS
Feasibility and final studies	Main network infrastructure
Land	Nodes-network connections
Construction of logistics nodes	Industrial sidings (railtracks to companies)
Information systems and equipment	
Location of logistics companies and related logistics services within nodes	

Table 3
Specific fields of subsidies/incentives to intermodal transport

The respondents were asked to assign them priorities by ranking them from null to top. The answers have revealed the following issues.

It is generally assessed that:

- **Construction of nodes and of their connections to the linear infrastructure (fostering the networking of nodes) should be promoted and supported.** As nodes enable territorial concentration of the transport and logistic companies within "equipped" areas, they contribute to reducing the transport fragmentation.

- **Under such support, specific emphasis should be given to funding of the feasibility and final studies,** aiming at easing the development of nodes and at evaluating their expected impacts, complying at the same time with the request for publicly justified and sustainable investments.

- Specific support should be also provided for **development of relevant information system** and provision of adequate equipment.

- **Regulation of the management of nodes, aiming at ensuring free access and equal conditions to all users,** is of utmost importance.

- **Homogenization of rules, procedures and technical standards between different countries** and regional cooperation (integrated system of regional nodes) have a fundamental role.

Subsidies/incentives for transport providers and users should be provided based on their volume of activity, but **special projects for short distance high frequency services in congested suburban areas may be usefully supported** (e.g. Shuttles from maritime ports to near located logistic centres and distriparks).

Among the **proposals** of the experts, we would point out the following ones:

- **Italy:** Development of nodes should preferably focus on a few high performance and automated nodes (i.e., packing list, transport documents, etc.) instead of a more extensive construction of low-equipped nodes. Specific attention should be paid to the development of ICT and Internet technologies. Additional solutions for freight should include development of bypasses for freight and marshalling yards. In order to achieve viable results, tax incentives should be available also to transport providers and users, based on a selective approach, e.g., for joint projects of transport providers concerning *new solutions* (new intermodal services, new services to intermodal connections), or *more efficient solutions* (e.g., outsourcing of logistics activities, incentives for "non-driven km") taking care also of encouraging specific modalities or/and intermodality (subsidies for tonne shifted or for train-km). The favourable conditions existing in Northern Italy for the international intermodal transport crossing the Alps (more than 50% of the European railroad combined transport) are not the same in the national network and in the domestic services, due to the fragmentation of the points of origin (ex. maritime ports); incentives and subsidies must take on account regional differences and the gaps between South and North.
- **Poland** has highlighted the need to provide for adequate equipment (e.g. purchase of special intermodal vehicles).
- **Slovenia**'s proposal is focused on (tax) incentives, which should promote and support environmentally sustainable modes and vehicles (e.g. through discounts) and selected specific fields (such as, investment in IM-related technology, education and training, transfer of good practice). In general, incentives should be also available for a limited period and selective.

The respondents were asked to assess the existence and the significance of constraints

to foster the development of intermodal transport. The possible answers listed three options: no constraints, financial constraints and normative constraints.

According to the respondents, generally, the shift to more efficient solutions in intermodal transport is facing **severe constraints, especially normative and financial**.

Two countries, Italy and Slovenia, have specifically indicated constraints in regulatory environment concerning the introduction & implementation of incentives (i.e. Slovenia has no national strategy or development policy adopted in the field of promotion of intermodal transport and it also lacks in financial analysis and feasibility studies regarding the financial aspects of the implementation, while Italy lacks regulations and funds for incentives other than those on train/km).

Among other constraints, it is worth to mention the **absence of the culture of intermodality** (reported by Italy) and **lack of expert knowledge** (observed in Poland). Concerning the infrastructure constraints, Central Macedonia (G2) mentioned inferior connectivity infrastructure and Italy pointed out the **time gap between planning and construction of new terminals**.

The business sector reported the highest proportion of financial constrains. The business sector also sees the presence of considerable normative constrains whereby the highest proportion of these constrains was reported by the research and consulting sector. **What the business sector means as normative constraints is often the administrative and bureaucratic burden of the regulation, not the lack of regulation**. **On the other hand the education and the public sectors consider the financial constrains as more important than normative**. The framework pinpoints huge constraints in the measure implementation.

MEASURE A.2 INCENTIVES FOR THE DEVELOPMENT OF SHORT SEA SHIPPING (SSS) AND OF MOTORWAYS OF THE SEA (MoS)

Short Sea Shipping is important as domestic transport in countries where a part of population is settled in islands or with a costal vocation, like Greece, Italy, Spain; in this cases the abolition or limitation of monopoly of the state-owned shipping companies has been the greatest contribution to the development of SSS and to the enlargement of SSS services. As international transport, SSS is important in countries where maritime distances from other countries are shorter than distances covered by road, like the countries overlooking the Adriatic Sea or the North Sea; huge transport streams by sea has been originated also by extraordinary events, like the war in the Balkan area. In this case SSS revealed as a compulsory alternative to land-based transport systems in international traffic; an example is the SSS services between Turkey and Europe through the Italian ports.

Incentives and subsidies should be analysed in the global context created by new market conditions. The single measure, especially in case of direct subsidising of users or service providers, might have a limited effect compared with measures or events changing the market framework. Similar to the intermodal rail-road traffic, SSS was indirectly affected

by the restrictions imposed to the road traffic crossing the Alps. The tremendous growth experienced by SSS in the Scandinavian/ Baltic area is also a consequence of political changes (the fall of communist regimes in countries like Poland and Baltic states and their entry in the E.U.) much more than an effect of *ad hoc* measures. **Regional cooperation by implementation of port to port services also play a fundamental role in SSS.**

In the European transport market, Motorways of the Sea (MoS) represent a quite new concept, which may be used to shift the freight from roads to the sea. Therefore it is very important to identify the needs for improvement in this field compared to the other fields of interventions.

The respondents to the questionnaire were asked to indicate whether the concept on incentives for SSS and MoS has been already implemented in their countries, and in case they have, whether the implementation was successful. **About 85% of the answers qualified the measure as not implemented**. A little proportion of successfully implemented actions is only shown in Italy. It might result from the incentives for road hauliers, which have been promoted by the Italian Government since June 2006. In Greece, generally, the measure has not been implemented. However, the **Ministry of Mercantile Marine is launching a special programme for the ports in order to help them with establishment of a significant role in the SSS and MoS in the Mediterranean area and in Trans-European Networks**. The programme covers various topics, from infrastructure to value-added services and, depending on the needs of individual ports, also justification and maturity for investments to be subsidised.

The question of incentives for SSS and MoS listed several potential fields for public support, in particular: **ports, infrastructure links, port's equipment, information systems and ITS, ships and services**, asking the respondents to assess their priorities ranking them from null to top.

As shown in Figure 11, respondents have awarded the **highest priority to the infrastructure links of the seaports**, showing thus that they are aware of the **need to strengthen the sea-land connections as a condition for (further) development of the MoS and SSS services**. This answer presents a strong consistency with the one concerning incentives/subsidies to intermodal transport which pinpointed the importance of nodes-links connections. Similarly, **high priorities were given to the port's equipment and ITS**. These high priorities indicate, however, that the infrastructure links (connections with mainland) and ports equipment are not sufficiently developed, while the **ITS was ranked high probably due to a poor interoperability of these systems**.

Services and ships were assessed as less important priorities, with the ships technology, concerning the ships of the new generation, assessed as advanced.

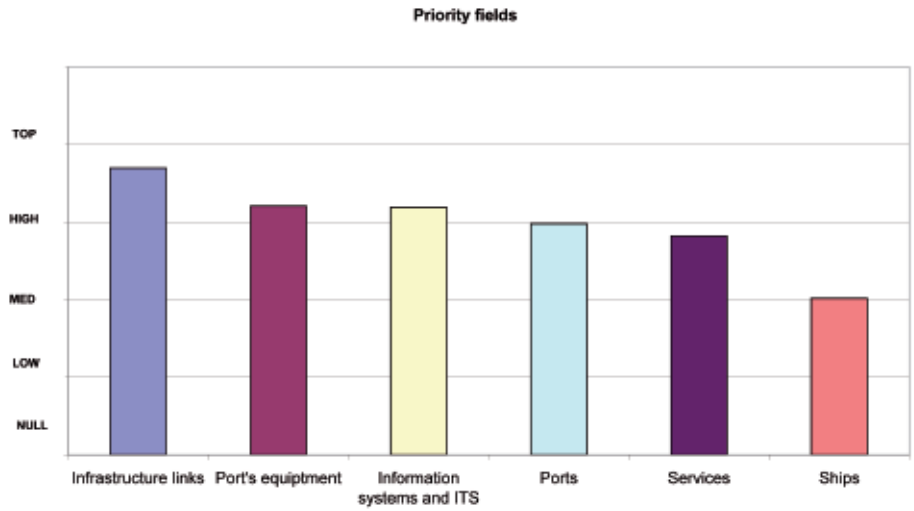


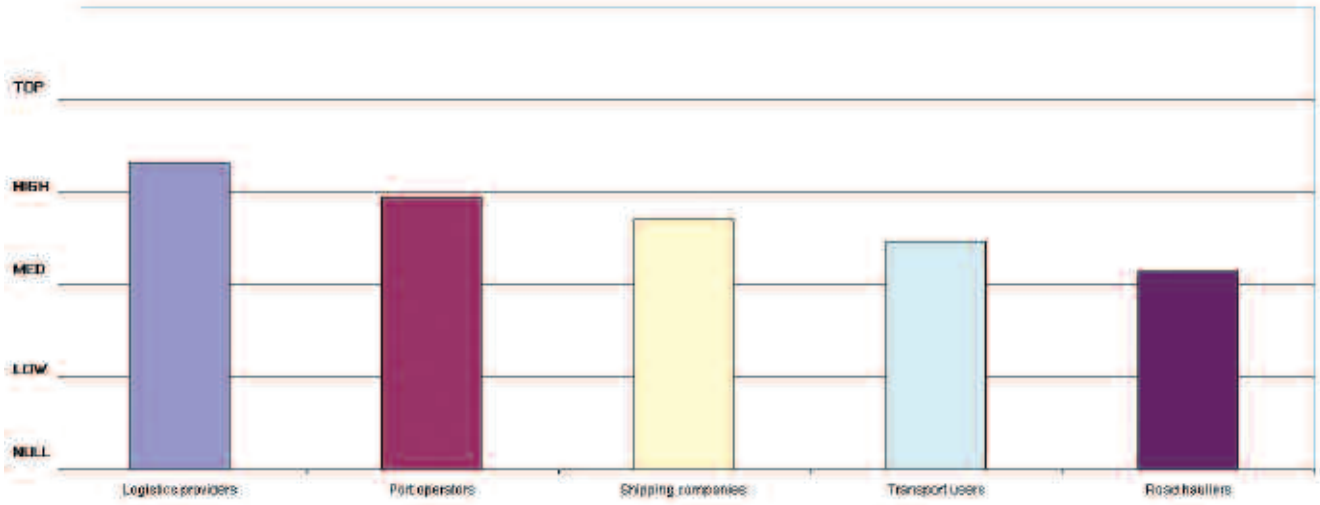
Figure 11
Priority fields of incentives to SSS and MoS.

There are however some differences in ranking the priority fields by individual countries. Central Macedonia (G2), for example, has assigned the highest priority to the seaports. The opinion of the evaluators from Central Macedonia is that it is **important to synchronize the ports' actions in Greece, since Greece is a Mediterranean country and its geographical position acts as a gate to Europe and consequently enables the development of intermodality**. Slovenia awarded the highest priority to the information systems & ITS and it also emphasised the infrastructure links issue, and Hungary has ranked port's equipment substantially higher than other countries.
Due to SSS services a great number of heavy trucks impact on urban traffic where seaports are located in the centre of the cities, as many European seaports are; the lack of infrastructure links is mostly related to the **lack of special by-passes permitting a relentless in- and outflow of heavy trucks through urban agglomerations**.

SSS needs no special port equipment for loading and unloading of Ro-Ro ships, except tractors for unaccompanied transport; modern ships equipped with ramps at two levels allow an easier and faster loading and unloading process; **problems are nevertheless arising from limited parking areas**. **Compared with the situation in maritime ports, infrastructures and equipment for SSS are underdeveloped in the ports of inland waterways**.
The questionnaire listed some potential beneficiaries for incentives, in particular **logistics providers, port operators, shipping companies, road hauliers and transport users**, ask-

ing the respondents to rank their priorities from null (zero) to top. **The highest priority is assigned to logistics providers, which is followed by port operators**. These two stakeholders, if supported by local public authorities, may take a **co-ordination role among the local sector operators managing available resources in an effective manner**. Ranked third, the shipping companies should also benefit from the measure. Typically, an incentive should be available to shipping companies in order to facilitate investments in a new route, which might not be viable at the beginning. **Transport users have been ranked last, as the least priority beneficiaries**. **Maybe it is surprising that road hauliers are the least beneficiaries of the measures, while the logistic service providers are the first. Market overviews report that SSS incorporated in specialized supply chains, for example in the automotive logistics or in forest products logistics, shows a faster growth compared with the simple ferry traffic. SSS meets more sophisticated demands and logistic service providers are the first beneficiaries of advanced solutions**. Incentives should be given to innovation-related industry wide programs. Nevertheless if road hauliers are the beneficiaries, cost-related subsidies and/or incentives should be preferred.

Figure 12
Priority Beneficiaries to Incentives for SSS and MoS Development



Supports to the development of SSS also come from a **fiscal policy in favour of the shipping companies**, from the **exemption from compulsory technical-nautical services in ports**, from the **"flexibilization" of the manpower loading and unloading trucks from Ro-Ro ships**, and from several other measures permitting to a shipping company to enter the market without particular barriers.

Representatives of all groups have generally agreed that the first priority beneficiary should be logistic providers. They are followed by port operators (with an exception of the public sector ranking them third, following the shipping companies), shipping companies, transport users and road hauliers. Representatives of business sector, however, assigned substantially lower priorities to shipping companies and transport users than the public representatives.

Concerning the difference among the countries' answers only the Greek Crete region (G1) and Poland put the highest priority to port operators. Concerning Crete this answer seams to be consistent with the one of Central Macedonia, which identified Greece as natural intermodal platform relying on ports' role. All the other countries have pointed out logistics providers as priority, though ascribing them a slight different priority.

Over 50% respondents assessed the **most important constrains in the development of incentives to SSS and MoS are financial**, namely, **lack of financial resources for ports' equipment**. Normative constraints present a slightly lower importance. Namely, the SSS and MoS concepts are quite new; therefore they are not on average sufficiently included in the planning of the action lines of Ministries, which results in a poor implementation-related regulation. **Economic constrains were considered less important, apparently because market demand exists**. Finally, slightly a significant share of respondents assessed there were no constraints in the implementation of the measure of incentive/subsidies to SSS and Mos. The smallest proportion of no constraints was reported for Italy, which is followed by Slovenia and Austria.

Among constraints, the financial ones are the highest in all countries except Austria that, in turn, reported on high economic constrains. Economic constraints are very high also in Slovenia, and the lowest in Poland. Normative constraints are the highest in Greece (both areas, Crete and Central Macedonia) and the lowest in Italy.

Financial constrains are considered the main obstacle in a framework dominated by public financing schemes. **It should be considered the opportunity of public-private financing schemes adopting the methodology of the project financing. This approach could probably discover the economic constraint as the most important by a general ferry service in an open market.** Nevertheless, as part of a project concerning the reengineering of a specific supply chain in a specialized market, SSS/MoS could be profitable.

MEASURE A.3 INCENTIVES FOR LOGISTICS TRAINING

The growing importance of logistics activities has triggered an **increasing need for training in logistics**. It is widely acknowledged that an adequate training is crucial to strengthen competencies for professionals and allow an increased diffusion of best practices and a general efficiency improve in logistics management. However some problems in the diffusion of training programmes on logistics can be found, mainly due to the lack of sufficient and available financial resources to be spent on these programmes. There is a wide range of critical problems spread in the world of education in logistics. Lack of financial resources tends to cut off courses, training programmes and investments in education. In order to promote the development and the diffusion of education, it is appropriate to fund or subsidize training programmes on logistics topics with public sources. **In order to build a coherent framework for the allocation of funds and subsidies, it is nevertheless necessary to define specific targets for training** and to highlight the priority topics for education programmes, depending on the actual needs of the particular local, regional and national contexts. Besides, it is also appropriate to identify the diverse subjects responsible for the education, in order to **create a sort of certification for enabled training institutes**. This behaviour is already in force in many EU regions and it needs to spread.

Experience with the implementation

The respondents to the questionnaire were asked to indicate whether incentives for training programmes have been already implemented in their countries, and in case they have, whether the implementation was successful. **About a half of answers (49%) indicated that incentives for training programmes have been implemented, even if only a small part (6%) indicates that implementation led to successful results**, in particular in Austria, Hungary and Italy. This is maybe due to the intervention of governments which regulated the allocation of some subsidies on the basis of respective country specific features. For example, it can be due to the allocation of European Social Funds in Italy to universities and training institutes for the education of students and professionals. Some non-compulsory training programs, conferences and workshops for transfer of best practices in logistics have been offered in Crete (Greece) and Slovenia, but usually covering only one logistics aspect, and this cannot be considered as an example of a structured training system.

In particular it should be discussed about **what is "logistics training"**: if it can be intended only as **company training for employees** or if it concerns **high specialisation courses** (MBAs, university courses, MSc). The survey results do not emphasise enough this aspect. In fact, **incentives shall be implemented also on the base of the type of training or education programme to be provided**, according to the specific needs of each country. For example, in Italy in 2005 there has been a proposal for a new training and education system, in order to train students from secondary school and university on logistics subjects. This proposal, not yet implemented (to be still discussed at the government level), tended to be an answer to the "hunger" of logistics professionals coming from the business sector and in particular from companies operating in logistics (confirmed also by the relevance assigned to training by the business sector in the breakdown of respondents about the topics). In this sense incentives for training of new professionals should be considered.

The answers presented by the different groups of respondents show substantial differences: representatives of the public sector have indicated the highest proportion of implemented incentives for training programmes, and this is maybe due to the presence of structured training centres for education of public personnel, included in promotion plans for upgrading their competencies, and to the financing of public training bodies. Apparently, the representatives from business sector are not aware of them or expects different types of incentives, since they showed the highest proportion of lack of experiences of all groups. This is the **public-private dual problem already pinpointed in other measures**.

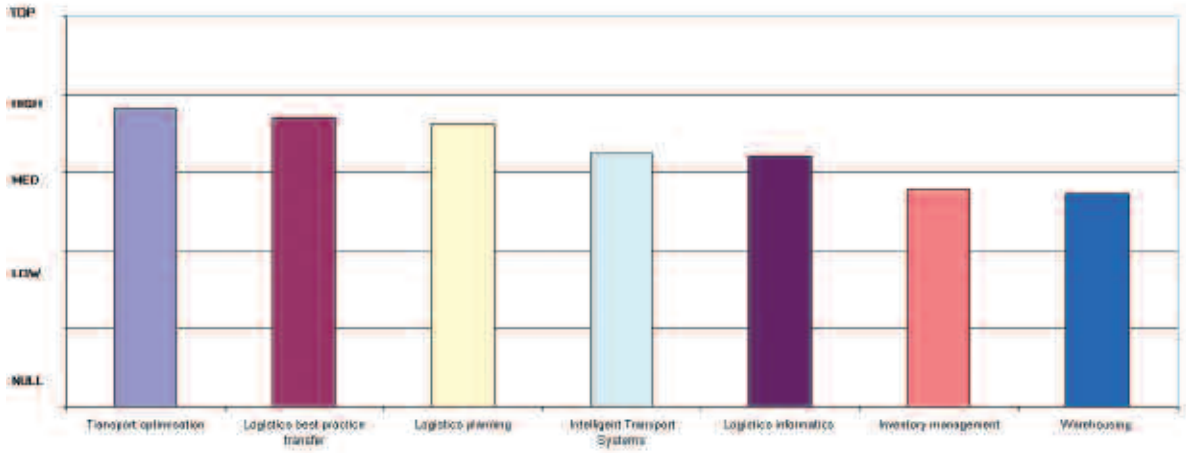
It is evident that experienced implementation cases were included in structured and certified subsidiary programmes. They should be kept as reference model for increasing the diffusion of such measure in business sector. In fact, the business sector finds difficult to obtain incentives, maybe due to their lack of relevant programmes to be shown. Cooperation between business, education, research and public sectors appears to be significant, in order to promote training courses at various levels (from company operative personnel to high level specialists), according to the needs of each country considered.

Priority Topics for Training Programmes:

In order to analyse training priorities and define practical methods for structuring a fund allocation framework, the questionnaire offered several potential topics for training programmes, such as: **transport optimisation, warehousing, inventory management, logistics planning, logistics informatics, intelligent transport systems, and transfer of best practice in logistics,** asking the respondents to assign priorities by ranking them from null (zero) to top.

As shown in Figure 13, the ranking of the topics reflect the reality: **a clear emphasis is put on improvements of transport/logistics operations**. Apparently, **practical experience is very important**. Current market situations (just in time, outsourcing, etc.) forces companies into high flexibility, which in turn, demands transport optimisation and logistics planning.

Figure 13
Priority Topics for Training Programmes



Transport optimisation appears as the most significant topic for training, together with logistics best practices transfer. Without any doubt, these topics are significant (even if best practices transfer could represent a debated element, in fact it is not always possible to transfer best practices, being part of specific company know how to be preserved), but some **emphasis should be given to supply chain management or integrated logistics**. In fact, these topics represent the most comprehensive ones, including sub-systems as transport optimisation, ITS and warehousing. Besides, topics should be consistent with target groups. Moreover in order to build a well based logistics system, IT should be considered as decisive, mostly for communicating and delivering logistics information.

Different countries involved in the investigation have indicated different priorities in the topics for training. Slovenia and Hungary assigned the highest priority of all countries to the transport optimisation. The need for transfer of best practice is rather high in all participating countries; again, it is the highest in Slovenia and Hungary. Logistics informatics and intelligent transport systems (ITS) were ranked high in Italy, in both Greek areas and in Slovenia. In Poland and Hungary, ITS are ranked quite high, while logistics informatics are ranked substantially lower, the lowest of all countries in Hungary. It can be said that Eastern EU countries feel the need for improving training for logistics best practices transfer and to educate quite all the targets group, in order to build a logistics system based on trained professionals. Logistics informatics and ITS are considered important in countries with a good logistics development condition.

In all topics, **business respondents have assigned very high priorities to training**. The high rates assigned by the business sector show how much important it considers education for the improvement of its activities. Transport optimization is marked crucial also by the research category: it seems to be a partial view of the entire logistics problem. Maybe this answer can be read as a clear signal of need for solving the transportation problems.

Priority Target Groups for Training:

The questionnaire pointed out several potential target groups for training, in particular **white collars in logistics, blue collars in logistics, public servants, students & researchers and consultants**, asking respondents to assign priorities by ranking them from null (zero) to top.

The respondents assigned the **highest priority to the white collars in logistics and to top management**. These groups are involved in logistics issues in companies by taking crucial decisions and responsibility for logistics development, and they could be the **initiators of a top-to-down approach in the dissemination of a logistics culture**, both in companies and at the national level. Blue collars, which are responsible for the execution of daily logistics operations, were ranked third. It must be underlined that **the highest priority should also be assigned to the intermediate line of managers, defined as "middle managers"**: sometimes they coincide with white collars, but the attention is anyway to be kept on the people responsible of the logistics processes.

Besides, trying to find a coherent link between topics and target groups, it can be said that transport optimization could be significant for white collars, but not really for top management. The latter should be involved in supply chain management and in general logistics management training areas.

A significant result is represented by the low importance assigned to students & researchers as target groups for training. This is a short term view: education should be provided not only to professionals, but it should be targeted to future professionals (i.e. students). It is in fact widely acknowledged that university and secondary school play a significant role in training the future workforce (e.g. for the diffusion of informatics in logistics).

The breakdown of target groups by countries shows a certain uniformity in assigning the highest ranking to white collars. **Italy has shown a significant need to train public servants**, higher than any other country (though this priority is present in all the survey involved countries): evidently, if companies in Italy employ a more trained workforce, the public sector needs to upgrade its employees' competencies in logistics, also in order to interface in a proper way with companies. Poland, among all countries, assigned the highest priority to training of blue collars and consultants.

Concerning the **proposals** of the experts:

- **Italy**: Regione Emilia-Romagna and the Institute for Transport and Logistics have carried out a survey on jobs in logistics and on the relevant skills (within the EU ENLoCC project - Interreg IIIC West). It is of utmost importance to make explicit the variety of jobs in logistics on the base of a structured approach which investigates companies' needs in logistics training at regional level and bring these needs to training bodies. This approach can help in over passing economic constraints (lack of market demand or lack of a tuned supply) and in matching demand and supply of training courses. Concerning the target groups of training and the relevant topics, a specialisation of training, especially for professional training, is needed.

Funding Sources for Training Programmes:

The respondents were asked to award priorities to different potential funding sources listed in the questionnaire (namely international/EU, national, regional and users) ranking them from null (zero) to top.

Over 80% of respondents identified international / EU financial sources as the main sources for funding training programmes. This high priority may be driven by the experience with the current system of funding; consequently, recipients expect financing of training programs from the EU sources to give continuity to the past experience. National sources have been ranked second and the regional ones third, substantially lagging behind. **The funding of the training programme costs by their users is assessed as the least important.** Evidently, experts assume that national and regional funds should be assigned to other measures for logistics development (as infrastructure). This answer can also show that **users (companies, public subjects, students) are not willing to invest in training, mostly if we consider as users the company employees (companies rely more on a learning by doing training)**. This is confirmed by the breakdown by experts categories: the business sector gives one of the lowest rate to users. However, lack of resources and country specific economic conditions can influence the willingness to directly invest in training. Also the education sector gives low priority to users' financing of training, but this can be considered as a claim for free of charge or subsided schooling.

Poland assigned the highest priority of all countries to international / EU sources. It is followed closely by Slovenia, Hungary, both Greek areas and Austria. Italy, apparently, expects less finance from the EU sources, and has given approximately the same priority to its national sources. Regional sources are the highest of all sources in Italy (where regional funding for training exists), and also quite high in Poland.

All the groups of respondents have assigned the highest priority to the EU sources. National sources are the most appreciated by the research sector, and this can be read as a signal of the **need for developing a national education systems in logistics**. Finally, the public sector apparently expects the users to participate in financing of training programmes much more that the other groups. It seems that there is a structural difference among expectations of different target groups concerning the funding of training programmes at national, regional and private level.

Concerning the **proposals**, we may highlight that:

- According to **Slovenia**, different training programmes and different target groups should be provided by different sources of finance, e.g., international and national sources for public authorities, students and researchers, and national sources to co-fund the private sector providers and users.

Constrains in the Implementation of the Measure of incentives to logistics training:

The questionnaire outlined several types of constraints, such as financial, economic, technical, and normative, asking the respondents to assess their significance for their countries.

Only 20% of all respondents replied there were no constraints in the implementation of incentives for training programmes. **Financial constraints for training are seen as the most significant ones** (43% of respondents), due to **difficulties in attracting funds**. They might be related to rather long administrative procedures necessary to attract public funding, and/or to a poor knowledge on other financial sources. Technical and normative constraints can be seen as linked to the previous issue: in fact, respondents find difficult to obtain funds because of a lack of well defined procedures or pipelines to obtain them, and consequently, it's hard to design a common or sound training model to be submitted.

The various respondents show the different "sides" of training: the business and public sectors feel the need for more financial resources, while the education sector fears the economic aspects, i.e. the lack of the demand for training (maybe due to financial constraints of its potential "users").

Analysing specific countries, over 80% of Polish respondents have reported no constraints, and a very small proportion of their respondents have reported financial and normative constraints. This is a very particular answer, even if coherent with the high percentage of implemented measures in Poland: it is evident that this country has experienced a good policy of subsidies, maybe due to incentives for general development.

The Greek Crete region (G1) has reported the highest economic constraints among all countries. Central Macedonia (G2) and Austria have reported high normative constraints; Austria has reported also the highest financial constraints (nearly 80% of respondents) among all countries. **In Italy and in both the areas of Greece, technical constraints exceed financial ones, while for Austria, Hungary and Slovenia, the opposite applies**.

According to answers provided by the different groups of respondents, **financial constrains are seen as very important by the public and business respondents**. The business sector also sees a high presence of normative constrains whereby the public sector considers these constrains as the least important. Normative constrains, in fact, are less crucial for a sector where a normative structure for bidding in public affairs is a consolidated rule. It can be said that procedures and normative aspects represent a particular constraint for business, while the public "lives" in a world characterised by the presence of these elements.

3. B IMPLEMENTATIONS

The implementation cateogry includes 5 measures (please see the executive summary, chapter n. 2, for the ranking among the five measures):

B.1 Implementing public private partnership (PPP) schemes in the field of logistics
B.2 Establishment of a logistics agency
B.3 Development of databases on logistics
B.4 Logistics criteria as part of spatial planning procedures
B.5 Actions for logistics improvements

MEASURE B.1
IMPLEMENTING PUBLIC PRIVATE PARTNERSHIP (PPP) SCHEMES IN THE FIELD OF LOGISTICS

Public Private Partnership schemes are a cornerstone to enable and promote the cooperation between the public and private sectors. The PPP schemes have shown some good results in several sectors. It is therefore important to implement them also in the field of logistics.

The respondents to the questionnaire were asked to indicate whether the concept of PPP in logistics has been already implemented in their country, and in case it has, whether the implementation was successful. **56% of all respondents have reported that the PPP schemes have not been implemented in their countries and the success level is consistently very low.**

Country's specific environment and their market conditions should be considered concerning the PPP for logistic centres, as well the role of the regulations applied by the central and regional planning authorities and the strategy and the market share of the big real estate multinational companies, specialised in building and leasing of logistic parks. New EU countries with low level of outsourcing in logistics, where high growth rates are expected, knew in the last years a huge greenfield investment activity of real estate companies. Not only warehouse spaces and truck gates but 24 hours security systems, parking areas, on site property management and maintenance services, water and used fuel treatment stations, telecommunication systems are included in an integrated package offered to customers.

Following these trends, **PPP schemes are changing radically**. **The problem is not if PPP is desirable or not but what kind of partnership is the most appropriate in the new market conditions**. Negative answers concerning the implementation of the measure perhaps testify the **unachieved transition from traditional PPP schemes to new forms of PPP**. The **role of public institutions consists much less in financing and building logistic centres like freight villages, but in the regional planning, in the promotion of region's appeal and in the regulation of the business related activities**. The public-private partnership are shifting from a public oriented market to a private oriented one. **Regional planning means land use destination and building of infrastructure links**.

Moreover the division of competencies between authorities and regulatory boards may bring to conflicts and paralyse the business activity. Environmental regulations may be as important as a fiscal policy. **To provide a clear framework of competencies among the different authorities permitting to the investors to take an easy control of the rules**

of the game is often the best incentive for a successful action of implementation.

Big logistic parks generates large road transport streams. The role of PPP is also to facilitate the availability of other transport modes and sustainable transport facilities. Land use destination should be integrated in the national road and rail network, avoiding fragmentation of the O/D points in the transport flow.

The countries have shown different proportions of implemented PPP schemes. Apparently, the highest proportion is shown in Austria, which is followed by Italy and Hungary. The proportion of successfully implemented schemes is the highest in Italy and only slightly lower in Austria.

The respondents were also asked to indicate the **optimal fields of the PPP schemes** implementation. The questionnaire offered two fields, which were additionally divided into several groups, as reported in the following table.

LOGISTICS INFRASTRUCTURE INVESTMENTS	LOGISTICS SERVICES
Logistic centres	Management of logistic operations
Warehouses	Management of logistics capacities / facilities
Transport terminals	Management of logistic services
Infrastructure links (to logistic nodes)	Logistic research
Roads, railway tracks	Logistic consulting
	Logistics education

Table 4
Priority fields of PPP schemes

The respondents were asked to assess their importance by ranking them from null (zero) to top. In addition, the respondents were asked to assess the priority of the two general fields:

• PPP in the field of logistics infrastructure investments.
• PPP in the field of logistics services.

As shown in the following figure, the message by the respondents was clear: **almost 80% of all respondents assessed the PPP in the field of logistics infrastructure investments as a priority**.

Under the priority "logistics infrastructure investments", the respondents have ranked the targets as shown in the following graph. The first priority is given to the logistic centres. At present, based on market demand, logistics centres have been gaining importance. The PPP schemes may play an important role in **setting-up of logistics centres**. In such investments, especially land acquisition may have substantial costs. Under the PPP schemes, the land may be provided by the state (e.g. as in Werendorf in Austria) or by local authorities.

The **transport terminals** were ranked second, being closely followed by the **infrastructure links**.

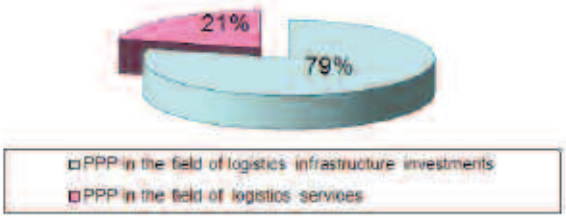
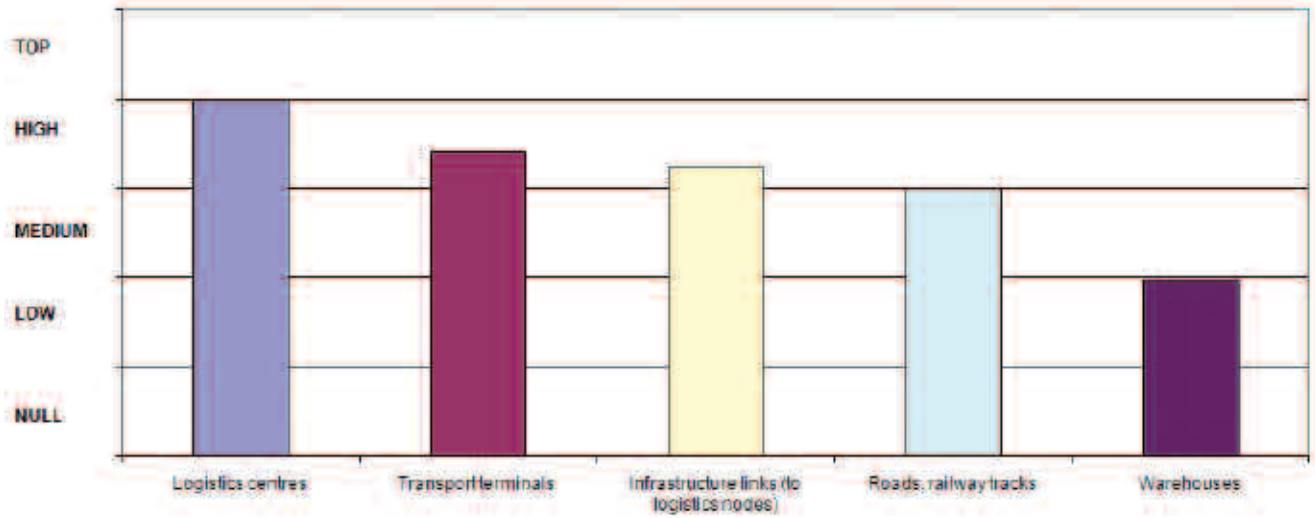


Figure 14
Priority Fields in PPP Schemes

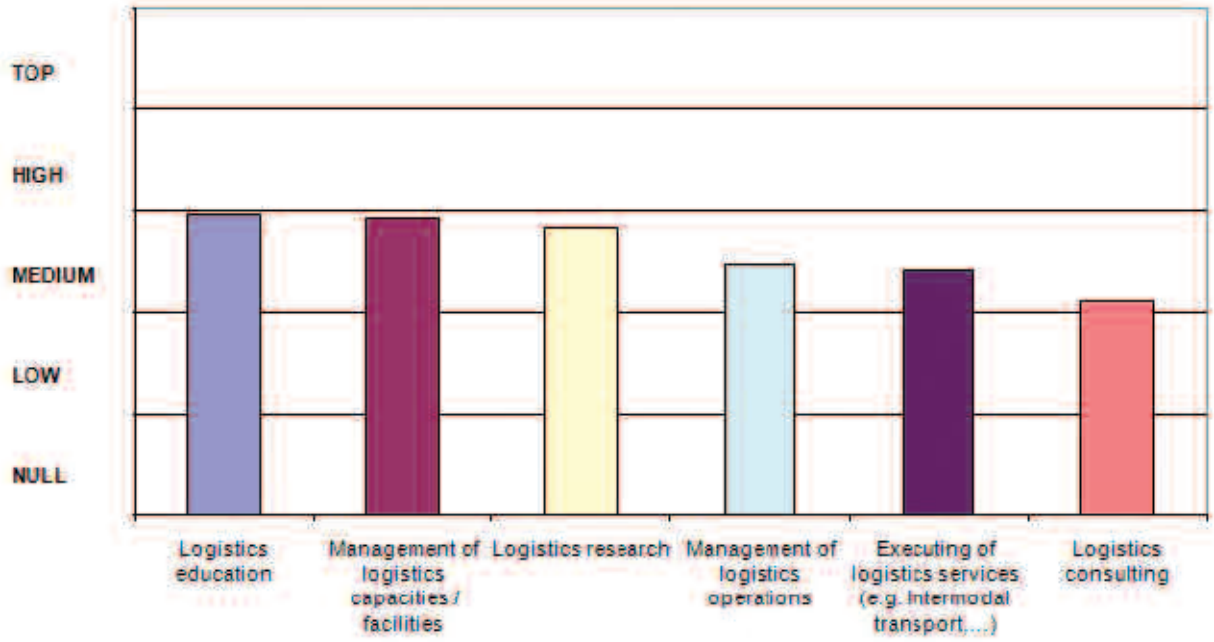
PPP investments in logistic services were considered less important. Respondents by individual countries have shown quite a diverse structure of the PPP priority investments in the logistic services category. The highest priority, at all, was given by Italy to logistics education. Management of logistics services is ranked quite high in Poland and Central Macedonia (G2), Hungary and Slovenia, and substantially lower in the remaining countries. Slovenia has indicated the first priority of PPP investments in the implementation of logistics services.

Figure 15
Specific targets of PPP schemes in logistics infrastructure investments



The respondents were asked to provide responses concerning the presence of constraints in the implementation of PPP in their countries, also by indicating the type of constraints. As 56% of all respondents reported that there were no PPP schemes implemented in their countries, it is understandable that over 50% of them have reported constraints in the implementation of PPP concepts in their countries. **Technical constraints prevail**, but normative constraints are ranked not much lower. The respondents specifically mentioned **lack of relevant legislation along with absence of interested bodies**. In addition, according to respondents, it is also necessary to provide huge investments for the implementation of PPP schemes.

Figure 16
PPP in investment in Logistic Services: Priority Fields

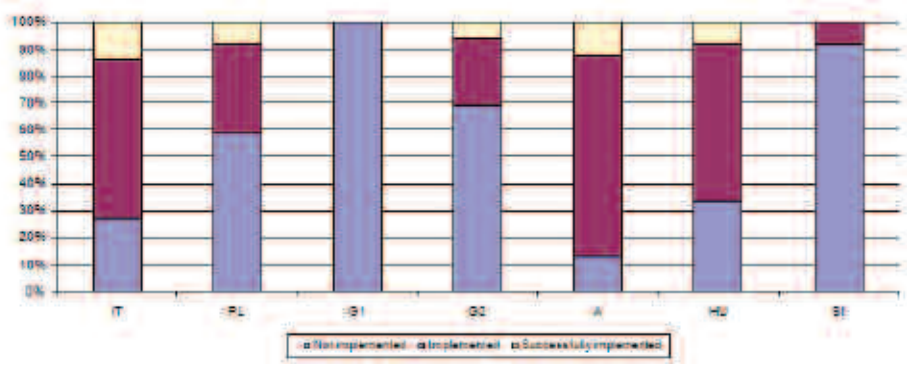


MEASURE B.2
ESTABLISHMENT OF A LOGISTICS AGENCY

A great variety and volume of logistics activities require a reference body, which should be responsible for their appropriate development and for their execution support. Public authorities and institutional bodies committed to regulation, planning and managing transportation have existed for quite some time at every level (local, regional, national and international) for all transport modes. Nevertheless the need to manage the complexity of logistic processes and their effects on social, urban and spatial environments suggested in many countries the constitution of **bodies specialized on marketing, on regulation and coordination of the logistic activities**. Marketing committed to attract foreign logistics investments in regions with large availability of land, regulation and coordination in order to prevent conflicts between stakeholders or between different infrastructure managing authorities in regions with high density of public and private logistic centres are fundamental tasks. These tasks can be fulfilled by a logistics agency.

The respondents were asked whether an agency for logistics development is already existing in their countries / regions, and if it is, whether it has been successfully implemented. Over 80% of total respondents have reported that such an agency has not been implemented in their countries. The remaining 20% of respondents have reported the agency development as an implemented action, out of which, about 4 % of experiences were successful. Italy, Poland, Central Macedonia (G2) and Austria have reported the existence of such an agency or something similar to it (e.g. in Central Macedonia some logistics associations have been established, but not a logistics agency). In Italy, there are experiences known in setting-up such an agency – some of them also successful. The same applies to Poland.

Figure 17
Experiences in developing a Logistics Agency



The respondents were asked to identify **the main functions such agency should perform**. The questionnaire provided a set of functions, in particular: **logistics policy framework definition**, **logistics planning**, **being a reference point to collect the stakeholders' logistics needs**, **supporting and coordinating the logistics services at national/regional levels**, **initiating of R&D and studies in the field of logistics**, **defining of logistic training standards**, **promoting sustainable logistics solutions** and **promoting the transfer of best practices**, asking the respondents to define their priorities by ranking the from null (zero) to top.

According to responses, there is a **clear need to establish such agencies, as almost all proposed functions have gained a high priority**. Such multifunctional body requires people with field experience and multiple competencies, coming both from the business and from the public administration sectors. The lack of logistic knowledge by employees of the public administration and the unwillingness of business people to the involvement in a public (semi-public) body may be the main reasons for the lack of implemented cases.

There are, however, some differences observed in the functions of a (potential) agency. Hungary and Austria consider most of the proposed functions less important than respondents from other countries. For instance, **the definition of logistics policy framework has been ranked high by all countries**, except Austria and Hungary. Instead, Austria assigned the highest priority to transfer of best practice (the function is ranked high also by other countries, the highest by Poland), while Hungary has prioritised definition of logistics training standards and placed transfer of best practice as the last function.

There are also substantial differences in priorities on the base of the different respondents' categories. The respondents form educational and public sectors have given the highest priority to definition of logistics policy framework, thus **asking the agency to be a support to public bodies**. The business sector has set quite clear priorities to transfer of best practices, promotion of sustainable logistics solutions, assessing quite high also initiating of research and studies, logistics training standards and policy framework definition.

Additional **proposals** of the experts:

- **Slovenia:**

- A logistics agency should provide for planning and coordinating of public infrastructure investment at the national level.
- Practices and methodology from the international network of the »Distribution Councils« could be very useful for modelling an efficient form of logistic agency.

Concerning the agency's ownership, the respondents were invited to choose among three options: **publicly owned, privately owned or public-privately owned**. The respondents have provided a clear message: almost nine out of ten respondents (87%) suggested that the agency should be **public-privately owned**. A successful example of regional agency in Italy shows that a consortium of public infrastructure managing bodies the with participation of representatives of the users of the logistic services should be an efficient form of public-private organisation. Nevertheless **an efficient agency requires a strong political commitment from the regional government**.

All the experts categories suggested a public-privately owned agency. As expected, respondents from business sector have suggested having a privately owned agency on the largest proportion. The public sector suggested the smallest proportion of either only publicly or only privately owned agency, thus proposing a public-private cooperation.

Participants in the investigation have been asked to define the **geographical area of the agency** operations, having options to choose among the regional, national and international levels.

Based on assumptions that agency should provide functions & solutions to specific and rooted logistics situations, the respondents assigned it, rather equally, **either a regional**

(42%) or national level (40%), while about 18% respondents assigned it international role.

The differences concerning the agency operational level expressed by individual countries may be understood in the context of the general characteristics of each countries. Slovenia, the smallest among the participating countries, with no regions established at present, is the only one with no indication of an agency at regional level. Austria and Hungary suggested having only regional and national agencies, with over 80% of suggestions for a national agency in Hungary. By marketing approach, where the main functions of an agency are to promote local logistic services and to attract foreign investment in logistic facilities, the geographical area of its operation is obviously international even if the commitment comes from a regional or national governments.

There were two additional **proposals** presented:

- The logistics agency should be nationally oriented, but also closely linked to an international network of similar national bodies.
- The logistics agency could be constituted of several regional agencies being subordinated and linked to the national agency.

The participants in this investigation were also asked to define the **potential logistics agency stakeholders**, ranking each of the listed options (national government, regional government, research institutions / universities, chambers of commerce and crafts, enterprise associations / business clusters, manufacturing companies, logistic nodes & infrastructure managing bodies, and logistics service providers) from null (zero) to top.

The highest priorities were given to **enterprise associations / business clusters, logistics service providers and logistic nodes and infrastructure managing bodies**. Consequently, the agency seems to be interpreted as a **local network of operative logistics key players and of the relevant associations**. Based on the expressed opinion that the agency should be organized at regional level, the regional government has been included as an important stakeholder as well. Research institutions and manufacturing companies share almost the same priority. The national government was given the lowest priority. The priority stakeholders are presented in the following figure.

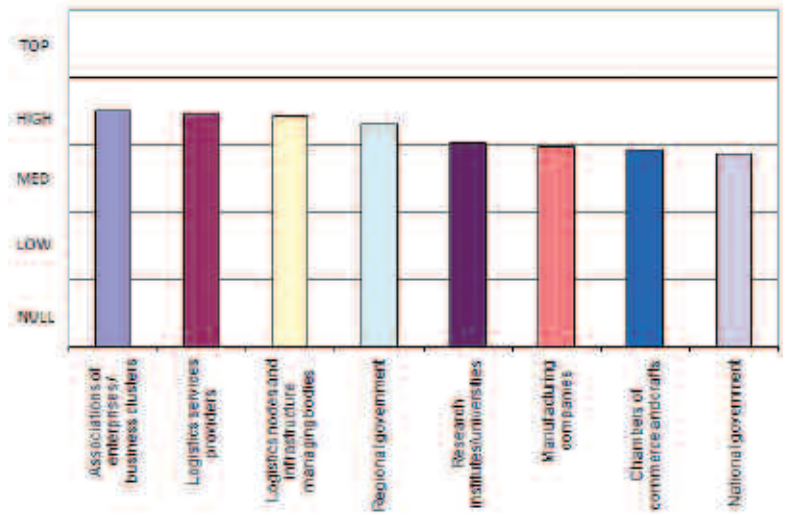


Figure 18
Priority Logistics Agency Stakeholders

The different countries representatives, however, expressed different priority stakeholders to be involved with the logistics agency. The importance of the regional government was assessed with the highest priority in Italy, and high in Poland, Central Macedonia (G2) and Austria, but much lower in Hungary. Slovenia assigned a high priority, higher than the other countries, to business associations. Logistics service providers are assessed surprisingly highly in Central Macedonia and Hungary and not in other countries. Logistics nodes and infrastructure management bodies are assessed quite high in all countries.

All the four respondents groups assigned a high priority to Logistics nodes and infrastructure managing bodies, Logistics services providers, Associations of enterprises/business clusters and Regional government. This answer characterizes the agency as a public-private body dealing both with the supply (and partially) demand side of logistics with a regional scope.

The questionnaire also asked the respondents to assess the presence of constraints related to the implementation of logistics agencies and define their type (technical, financial, normative). As there are no logistic agencies in most of the participating countries, it is not surprising that many respondents have reported **several constraints with the implementation**. Over 50% of them considered the **normative issues** (such as, absence of adequate legislation) and over 40% of answers reported technical and financial constraints related to the resources necessary for the establishment and operations of such an agency. As pointed out before, lack of well trained human resources and scarcity of advanced logistic knowledge would represent important barriers to setting-up an efficient and authoritative agency.

There are somehow different views on constraints in the implementation of logistic agencies among different groups of respondents. The highest proportion of normative and technical constraints has been reported by the public sector along with the smallest financial constraints. Business and research sectors are apparently more sceptical about financial constraints, where the business sector representatives also reported the highest proportion of “no constraints”. Finally, the educational sector reported moderate normative, technical and financial constraints, but it indicated at the same time the smallest proportion of “no constraints” answers.

MEASURE B.3
DEVELOPMENT OF DATABASES ON LOGISTICS

Nowadays information technology acts as a fundamental player in the economy and also in some fields of logistics. Sharing and communicating information is essential to guarantee an efficient flow of goods and a correct logistics planning and management. The need for reliable and wide spread data on logistics is really common among companies, public subjects and governments. Information can support companies, but also all the other players in extended supply chains, in the effective performance of logistic activities and enable public bodies to develop viable plans for future logistic development. In particular it is necessary to provide for updated logistics databases developed in such a way that they can be quickly and simply be accessible for all the interested users. Lack of appropriate data represents a major problem for the preparation of logistics studies which are an input for the planning of logistics activities. Collecting, updating and sharing data is essential to develop a consistent planning also at EU level. In fact, assuming that incentives and other measures should be allocated depending on the actual needs and actual performance of specific countries' logistics systems, **data represent the crucial elements for evaluations and decisions**. Besides, studies, researches and businesses need reliable and updated information in order to be aligned with the current market situation.

Experiences with Development of Logistics Databases:

The participants in the investigation were asked to indicate whether logistics databases were developed and provided in their national/regional contexts and, if they were developed, the level of success of the initiatives was asked to be judged.

A large proportion of respondents (65%) have reported that such databases were not implemented in their countries/regions. Out of the 35% of positive responses, only 1% reported on successfully implemented actions. There is no doubt, however, that data on logistic is collected in most of the EU countries. **The problem is that data concerning specific logistics issues are missing or outdated**. Moreover data about logistics are collected in every country, but the sources of such data are not publicly certified (for example by the chambers of commerce and by the regional governments).

There is also a different level of implementation experiences in the individual countries. Apparently, Poland is assessed as providing the largest proportion of experiences. It is followed by Austria and Hungary. The situation in Slovenia seems to be slightly better that Central Macedonia (G2), while the Greek Crete region (G1) has reported no implementation experiences of the measure. Finally, only Italy has reported a small proportion of successfully implemented logistics-related databases.

The public sector seems to be the most satisfied with the logistics-related databases. Namely, they have reported the highest proportion of experiences and of positive results. It seems that in its institutional task, the public sector finds a natural tendency in providing data for consultation. The business sector is a bit more sceptical; despite of that, it has reported a small proportion of successfully implemented experiences. **Educators and researchers evidently have difficult access to data**, or have to employ many resources in order to collect and classify data, in a condition of evident limitations. **The role of the public sector** concerning logistics data and information may be considered as **bi-fold**:

- on one hand it should be the **provider of data**, in collaboration with the research sector, while the business sector and mostly the education and applied research one should be the users of data.
- On the other hand the **public bodies strongly need fresh logistics data as input to their policy making decisions**.

This consideration brings the need to strengthen data collection and systematisation in logistics.

Does logistics data satisfy your needs?

The respondents were asked to assess the quality of the Eurostat, national and regional logistics-related databases.

According to the answers presented in the following figure, the respondents were not satisfied with any of the listed sources. Actually, the lower the level (international – national – regional), the lower the satisfaction with logistics data. The Eurostat data are assessed as satisfactory only by some 30% of respondents from Central Macedonia (G2), and 22% from Hungary, and by smaller proportions of respondents from Slovenia, Italy and Austria. Poland and Crete have reported no satisfactory assessment. National logistics-related statistics is appreciated in Hungary (by almost 50% of respondents) and by a small proportion of respondents from Italy and Austria. Regional databases are satisfactory (for less than 20% of respondents) only in Italy.

The need for homogeneous data is perceived comparing the performance of Eurostat with national or regional databases. **Besides, data visibility along the information chain, up to European level, should be guaranteed by each country**. It can result in a resource consuming task, but it can give some objectivity to the comparisons between countries and within each country. Before succeeding in making homogeneous data at European level, national and regional data should be harmonized in every specific country. First of all, however, a ranking of relevant data classes to be collected and harmonized at European level should be carried out, in order to give to each country some priorities in making logistics database more efficient.

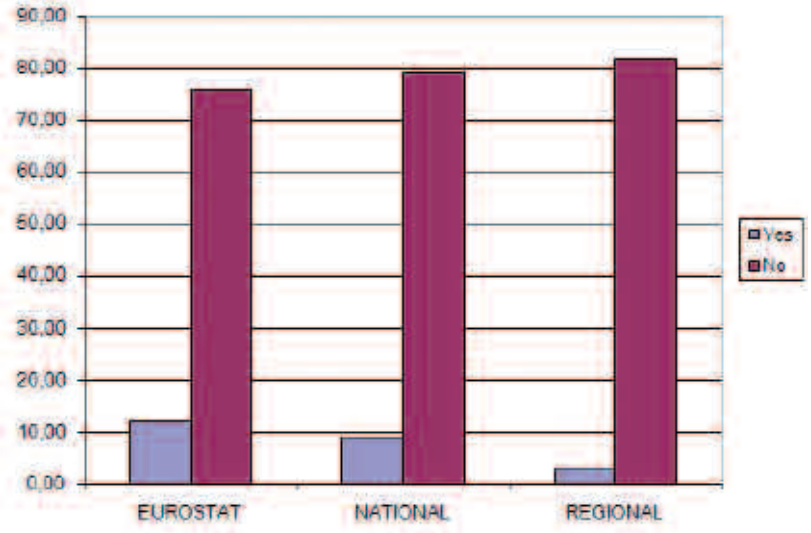


Figure 19
Satisfaction with logistics databases.
Positive (yes) and negative (no) answers.

The lack of satisfaction is evidently tied up with the poor successful implementation examples. The detail of available data shows how the difficulties of collecting and classifying information at regional level may compromise their usefulness. The public sector should deepen and coordinate data gathering at regional level. Eurostat should be more flexible and be more active in updating national data, in order to keep congruous the various levels. It can be a stimulus for making regional and national governments be aligned on provided data. National databases don't contain specific information: it can depend on the detail level they can reach in harmonizing regional information and on the number of areas they can cover with regional and proprietary data. Difficulties are finally found in integrating cross-national information.

In addition, the respondents submitted the following **comments** concerning the **existing databases**:

- The Eurostat database is not complete for all countries.
- National databases usually contain only general data; relevant areas for analysis of logistics planning are missing.
- It is difficult to obtain node-to-node O-D matrices for national and international traffics.
- In intermodal traffic data, there is lack of data on goods and related information on values carried in loading units.
- The Eurostat data often does not correspond to the data provided by the national statistics and by transport and infrastructure companies.

Is there a Need for Additional Data in International/National/Regional Databases?

The participants were asked to assess the **priority needs of additional data necessary at the international, national and regional levels**. The questionnaire provided several options (such as logistics capacities, characteristics on transport providers, education in transport and logistics, research and consultancy), asking respondents to rank their priority from null (zero) to top.

Respondents have expressed the need to collect & process additional logistics data at all levels. **The most urgent need appeared to be in collecting data on logistics capacities** (warehouses, container terminals, logistics centres, etc.) and **on the characteristics on transport providers** (capacities and characteristics of rolling stock, transport capacities per mode, destinations, transport frequencies) **and research and consultancy** (e.g. best practices, consulting services/companies, studies and projects). The least important seems to be education in transport and logistics.

Results show the need of information about the general conditions of logistics and transport in the various countries and also at European level. It can be useful in order to obtain benchmarking at EU level. It must be said that this issue can face some opposition because comparison between countries are not always accepted and there are some information areas to be protected. This represents a trade-off problem for information visibility.

There are no substantial differences in the specific countries' answers: the importance of data on logistics and transportation capacities is widely recognized. However, it should be underlined that **the need for information on transport providers expressed by Slovenia and Italy may represent an issue to regulate transportation and to make it more efficient and monitored**.

Not surprisingly, the highest priorities in all the data fields (except in data on education in transport and logistics) was provided by the research sector. Similarly the educational sector has expressed a strong need for logistics data. The public sector is most interested in additional data on transport providers and logistics capacities. Nevertheless, **it can be expected that the business sector will increase its interest in data. Increased outsourcing of logistics services (especially**

transport), demands reliable information on logistics capacities and transport providers. This category of information, however, can be useful not only for companies, but also for research and public sector, having the need to monitor and evaluate specific countries situations.

Constrains with Implementation of Logistics databases:

The respondents were asked to report the constraints related to the development of logistics-related databases and to indicate their type, choosing among the following options: normative constraints, technical constraints, financial constraints, or "no constraints".

The largest proportion of all answers reported **technical constraints**. Normative constraints were ranked second and financial constraints fell on the third place. The most important technical constrains include problems with **data collection, lack of computerised systems, non-consistent statistical systems**. Normative constrains are related to data harmonisation and lack of legal provisions for data collection (usually, collection of logistics data is not prioritised). Financial constrains are related to expensive updating of data and data collecting. Some constraints seems to be tied up one with another. In fact, technical constraints are connected with the financial capability: advanced tools for collecting data require significant investments, also in human resources and in contacts with many sources. In fact the need for more than one data source is due to guarantee reliable and objective data. As underlined before, this issue is resource intensive and financial constraints play a significant role. The lack of normative should be solved at European level, even if each country should collect data in a coherent way. Countries stressing normative constraints affirm that their information system is very fragmented and hard to harmonize.

As underlined before, the public sector seems to be most satisfied with the present circumstances, having reported the lowest volume of all the three types of constraints and the highest proportion of "no constraints" answers. Not surprisingly, the highest problems have been reported by research and educational sectors, both highlighting particularly technical problems, mainly due to lack of adequate resources. The business sector, in a coherent way, assign high priority to all constraints, showing the need for solving the problems in data diffusion and sharing.

MEASURE B.4
LOGISTICS CRITERIA AS PART OF SPATIAL PLANNING PROCEDURES

If logistics criteria were a part of the official start-up documentation for the construction of industrial zones, for the development of clusters and for the establishment of manufacturing (trading) companies in industrial areas, the companies and the relevant territories would achieve their sustainable logistics aims more easily.

The survey emphasises that in order to achieve sustainable logistics solutions at regional and national level, **logistics criteria should be adopted in spatial planning, in the planning and set up of industrial areas and in the choice of the location of companies in production areas.** This conclusion pinpoints that there is a general consensus on the **need to address the generators of freight traffics in order to optimize logistics activities** and on the need to ensure a **rationale and effective connection between the industrial areas and the regional transport and logistics infrastructural backbone**.

In particular the participants in the investigation were asked to provide their opinion on whether logistic criteria should be included in the official documentation necessary for settling a manufacturing (trading) company in an industrial zone or more in gen-

eral to set up an industrial zone. Almost all respondents (96%) have provided positive answer.

Nevertheless land planning in high density industrialized areas needs different requirements than planning in regions where large territories are available for commercial purposes. Priorities are different, to avoid congestion in one case, to attract green field investments in the other case, though a rationale planning is anyway needed. Slightly over half of respondents (52%) have reported their experience with the implementation of the measure, but only 4% of the experiences were successfully implemented when subsidies were provided for the establishment of the companies in dedicated locations. The public sector has reported a very high proportion of implemented experiences (almost 70%). The opposite situation (although not so intensive) applies to all the other categories.

Additional comments and proposals:

- The respondents have emphasised that logistics criteria should be considered a driving factor to admit the companies to industrial zones. Such criteria should also be integral parts of the planning and construction procedures in establishing of new industrial areas.
- Obviously, there is a need to optimize logistics activities and ensure a rationale and effective connection between industrial areas and regional transport and logistics infrastructures by means of spatial planning activities.
- The respondents pointed out that in spite of the prevailing opinion that logistics issues should be taken into account in spatial planning, at present, this measure is not applied.
- Regione Emilia-Romagna promoted a regional laws concerning APEA (Aree Produttive Ecologicamente Attrezzate / ESIA Environmentally Sustainable Industrial Areas) which defines that logistics and mobility criteria should be considered in the set up and development of industrial areas.

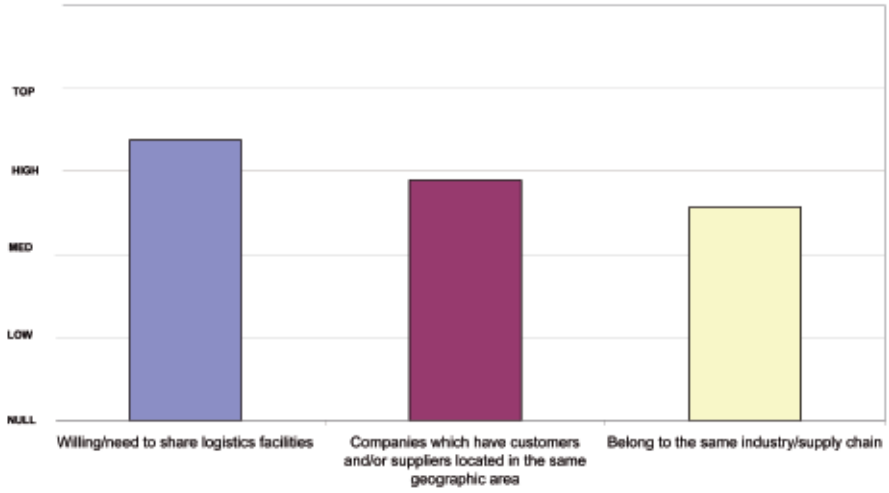
Settlement of companies in high density industrialized areas should require a compulsory documentation of logistic criteria as part of the planned investments. The impact of logistics related activities on congestion often depends from the level of outsourcing achieved by a company. Therefore **indicators on the maximum level of congestion acceptable by a region, also on the base of outsourcing data, should be implemented by local authorities.** Additional settlements of companies in the region may be evaluated in terms of additional transport activities. **The indicators can provide an important decision tool for the authorization of new settlements**.

Preferential Criteria for Admission of Companies to Industrial Areas:

If logistics criteria represent driving factors in order to choose the companies to be located in industrial areas and in order to reduce traffics, the analytical choice of these criteria represents a major challenge. The participants in the investigation were asked to assign priorities to a set of criteria (the company should belong to the same industry/supply chain, it should agree or seek to share logistics facilities, it should have customers and/or suppliers located in the same geographic area) to be respected in locating companies in industrial sites, by ranking them from null (zero) to top.

The respondents have given the first priority to the **willingness / necessity of a company to share logistic facilities**. It is followed by the criterion on having customers / suppliers in the same areas, while the issue of the related industry / supply chain was ranked third, although not lagging much behind the first two criteria. The assessment is shown in the following figure.

Figure 20
Preferential Criteria for the admission of companies to industrial zones



Land planning should take into account both the existing resources of "logistic parks" and the level of outsourcing realized or foreseen by the companies. Public authorities responsible for land planning should promote the **coupling of "industrial parks" with "logistic parks**" or **"industrial clusters" with "logistic clusters"**. Indeed, the countries, in most cases (and this is anyway a good results), consider the willingness or need to share logistic facilities the most important criteria.

The respondents have contributed the following **additional comments and proposals**:

- **Italy:** In the long-term, the consideration of logistics criteria in settling a company in an industrial areas and/or in the setting up industrial zones will lead to numerous positive effects (less tkm, less congestion, lower logistics costs, etc.).
- **Italy:** It is suggested the developing of framework agreements in industrial areas, where companies would voluntarily commit to share logistics services.
- **Italy:** Cooperation among municipalities in industrial areas planning is an important rationalising factor for logistics, in terms of chance to develop inter-municipal industrial areas. Each inter-municipal industrial area may be located on the base of a joint decision of the involved municipalities, independently of the single municipality's geographic boundaries. The areas may be managed by public or public-private bodies which work on behalf of the different involved municipalities. This process ensures that Municipalities develop jointly spatial planning processes avoiding the industrial ar-

eas fragmentation and competition. Moreover, municipalities share costs (e.g. urbanization of the areas) and revenues (taxes/incomes for the public bodies) related to companies' localization and settlement choices. An example is the sharing of the revenues that come from the Italian local tax on real estates (*ICI tax*), which is one of the main financial sources for Municipalities. For example the Municipalities A, B and C develop an inter-municipal industrial area in the administrative territory of Municipality C, but the costs and revenues are shared by the 3 Municipalities.

Land planning authorities on their side should offer alternatives to the companies unable to conciliate production's requirements with sustainable logistics in a high density industrialized area. "Local sourcing" is often considered a measure that companies should adopt in order to reduce the "length" of the supply chains.

The respondents were also asked to report the constraints related to the inclusion of logistics criteria into official start-up documentation of industrial areas and to indicate their type, choosing among the following options: economic constraints, technical constraints, financial constraints, or "no constraints".

The largest proportion of all answers has highlighted **technical constraints**, including **lack of experience** in this field in most of the countries. By setting up a commercial or industrial activity many aspects concerning the structure of the supply chain, its extension and characteristics, in terms of service standards, are in general ignored by the public management. Public authorities, supported by research and education centres (and hopefully by a logistics agency or competence centre), may help in assessing the logistics impacts of a new industrial area.

As mentioned above, the most serious constraints are technical, which is also assessed in individual countries. The highest technical constraints have been reported by Poland, Hungary and Central Macedonia (G2). Crete (G1) sees no constrains for the implementation of the measure in its territory, based on the good experience gained by the establishment and successful operations of the industrial zone in the Prefecture of Heraklion. In addition to medium technical constraints, Italy has reported also rather high financial constraints, if logistic activities are submitted to tight environmental regulation.

Figures reported by the public and business sectors seem to be quite similar, with a higher proportion of "no constraints" reported by the business sector.

MEASURE B.5
ACTIONS FOR LOGISTICS IMPROVEMENTS

The actions hereafter analysed should aim at the promotion and development of new optimal (sustainable) logistics solutions. The actions present a target on manufacturing and logistics companies. First of all the experts were asked to judge general actions lines. On a second step they were asked to judge specific measures.

B.5.1 GENERAL ACTIONS

The respondents were provided with a list of general actions aiming at improvement of logistics and thy were asked to assess their implementation priority, feasibility, financial constrains and organisational / technical constrains in their respective countries / areas.

Table 5
General actions for logistics improvement

1)	Improvement of logistics activities in manufacturing/trading companies by means of better coordination of their suppliers and customers;
2)	Improvement of inbound logistics/manufacturing activities in the companies;
3)	Rationalisation of logistics activities by means of networking of manufacturing companies in the field of procurement and sales;
4)	Solutions helping manufacturing/trading companies in finding optimal logistics providers and services;
5)	Adoption of information and communication technologies (ICT) for managing of logistics activities in manufacturing and logistics services companies;
6)	Promoting and developing interoperability of logistics information systems (at least among cooperating manufacturing and logistics services companies);
7)	Cooperation among transport providing SMEs for strengthening their market position and optimizing transport services;
8)	Promoting cooperation among companies/regions in order to disseminate best practice solutions;
9)	Supporting development (and usage) of open pool palette systems (4PL management of empty palettes, containers, packaging, etc.) in order to improve sustainability in the field of reverse logistics flows.

According to the reported answers, **all proposed general actions have been considered highly important for the implementation**. The respondents have ranked all priorities almost equally.

The most important actions concern the field of **cooperation, coordination and networking among companies**. Cooperation, coordination and networking among companies in a high competitive business world may have good chance of feasibility with reference to vertical integration within the supply chain. It seems **more difficult the cooperation between companies competing each other as users or customers in a logistic market**. Respondents assigns highest priority to the cooperation and networking among companies aiming to achieve economies of scale and the rationalization of resources in a market situation, where demand of logistic services is often generated by SMEs. SMEs have experienced a supply chain complexity as never before due to the widening of their market through

globalization and diffusion of e-business. **Public support to face the growing complexity of the supply chains is necessary in order to strengthen the competitiveness of SMEs in the foreign markets**. Cooperation and coordination among public institutions and agencies for the internationalisation, at regional and national level, good information about their services, a strong specialization of these agencies on logistics activities, can be the necessary condition for a coordination of different supply chains involving companies in reciprocal competition.

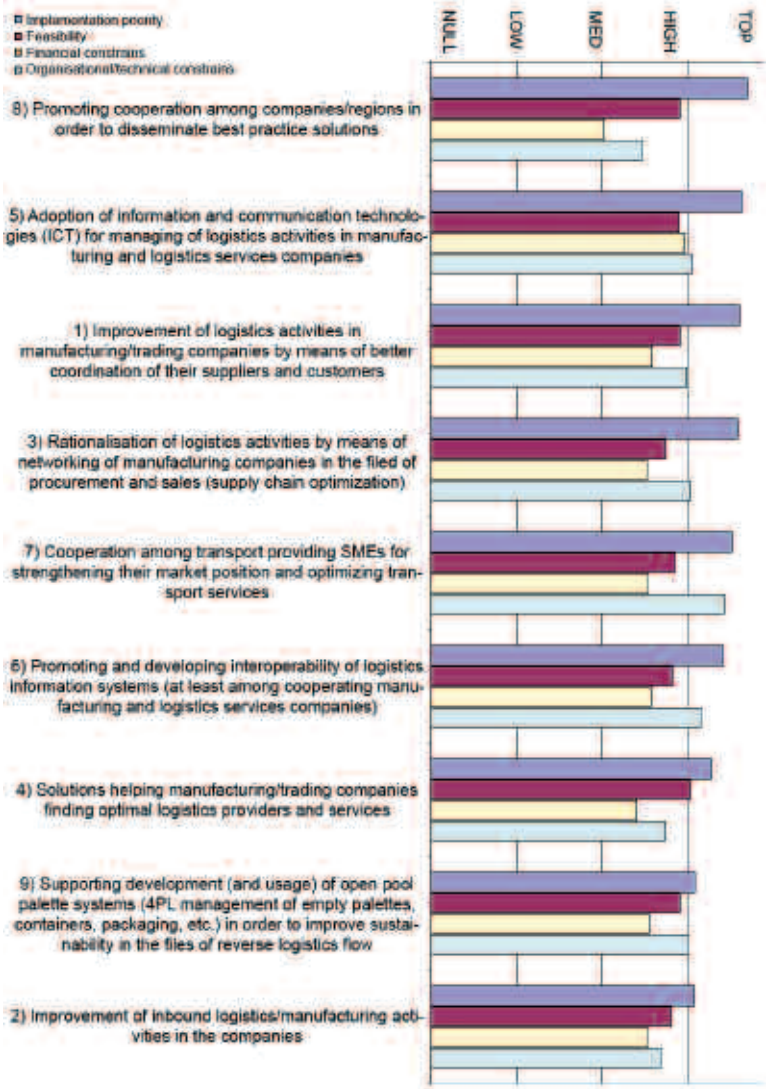


Figure 21
General Actions for the improvement of logistics: Priority of Implementation, Feasibility and Constraints

It can be acknowledged that the general measures provided to the respondents include a high variety of measures to be undertaken. **The "leit motif" seems to be the need for networking and for expanding traditional company and logistics systems boundaries**. This element could be considered compliant with the necessity to include integrated logistics and supply chain management in the priority topics of logistics training. In addition to this measure, the issue of networking and cooperation among companies is covered also by Action 3 (rationalisation of logistics activities through networking among companies) and Action 7 (cooperation among SMEs transport providers with a purpose of strengthening their market position and optimizing transport services). The problem arising with cooperation among companies is that they fear to lose their competitive advantages through such cooperation. Nevertheless non-competing companies can have huge gains from logistics cooperation. One example is the **developing of joint logistics services in industrial areas**.

Considering actions designed for single companies, the most important one is **adoption of ICT for managing of logistics activities in manufacturing and logistics companies** (Action 5). The supply of ICT systems and ICT-based services by top logistics providers allows SMEs to enjoy the opportunities of state-of-the-art information technology. Therefore the diffusion of advanced solutions often depends from the level of outsourcing achieved in the different manufacturing systems. **Fiscal measures promoting outsourcing of logistics operations by SME may have a positive effect on the adoption of advanced ICT solutions**. However, in-house implementation of ICT systems allows companies to adopt tailored solutions for specific purposes and avoid standard solutions. An in-house ICT strategy of improvement anyway testifies the willingness to innovation. **Sustaining SMEs' effort to innovative in house developed ICT solutions may also be an important contribution to an open market, which on the other hand tends to witness the concentration into ICT big vendors.** Public support to **cooperation of research centres and SMEs in the field of ICT-based logistics** (order management, procurement, tracking and tracing, etc.) can overcome barriers to the adoption of ICT.

Despite high organizational & technical constrains in almost all actions (slightly lower in the actions 2, 4, 8) and particularly in the actions 6 and 7, and high financial constraints (assessed particularly for Action 5), **the feasibility is still quite high**.

Concerning the differences among the countries, Action 8 (promotion of cooperation among companies for the transfer of best practice) was particularly highly prioritised by Slovenia and Hungary; Slovenia and Italy assigned the highest priority, at all, to the Action 5 (adoption of the ICT). Italy consistently assigned high priority to Action 6 (interoperability); in Central Macedonia experts stress, that although ICT systems are very important for facilitating logistics planning, many companies still use traditional information systems and an improvement is needed, consistently with the Italian point of view. Action 3 (networking of SMEs in procurement and sales) was assigned high priorities by Austria and Hungary; Poland seems to fall with its priorities slightly under the average of the other countries, with the exception in Action 8 (cooperation among companies for transfer of best practice). It seems that Hungary has assigned higher priorities than other countries practically in all listed actions, which holds particularly for Action 8 (promotion of cooperation for transfer of best practices) and Action 6 (promotion & development of interoperability).

Coordination and networking among companies may be implemented by the adoption of special products of information technologies, as the "**collaborative platforms**". The mission of the supply chain management (SCM) is the networking of different enterprises. The best way to achieve an efficient coordination is a strong and flexible ICT network, where enterprises accept common rules and common procedures. The adoption of common rules in the supply chain management is not the same as sharing physical as-

sets (ex. warehouses) and physical operations (ex. transport). High developed industrial regions where congestion is a critical item stress the cooperation in terms of sharing physical assets (further than ICT), while low density industrialized regions assigns priority to the upgrading of technical equipment and of logistic knowledge by companies. The constraints in implementing cooperation and networking are manly represented by the risk of losing know how and competitive advantage: this can be in opposition with the need for transfer of logistics best practices, previously analyzed. This element can be seen as a **"changing management" problem**.

Concerning the differences among the respondents core occupation, the public sector assigned the highest priorities to Action 3 (improvement of logistics activities in companies) and 7 (strengthening market position of the SME transport providers). The business sector, in contrast, assessed these actions the lowest of all respondents. The same apply for Action 1 (improvement of logistics activities in companies) and Action 6 (interoperability). The business sector, namely, assigned the highest priorities to Action 8 (cooperation among companies for transfer of best practice) and Action 5 (ICT).

The respondents were also invited to suggestions for the organisation of the suggested measures, in terms of nature of the promoting bodies (public, private or public-private). The first choice expressed by respondents was **once more public-private cooperation**. On one hand the public participation can ensure funding and the transparency of the procedures. On the other hand, the participation of the private sector shall evaluate and express the actual needs of logistics operational improvement and bring into the operative testing the proposed solutions.

More in detail the questionnaire has listed several possible roles of public bodies, namely financing the feasibility studies, testing and full-scale implementation of the actions, development and implementation of measures for the listed actions and promotion of the transfer of best practice and education, asking the participants to assign priorities.

According to answers**, the public role is seen as a promoter and facilitator, in particular in terms of funding the studies for the actions and their tests**. The fact that the public bodies are not primarily requested to finance the full-scale implementation of the actions (this role is assigned lower priority) indicates that there is also private investment and commitment required. Such investment may also prevent failures in public support as it can ensure real companies' commitment to innovations in logistics and their sustainability after the test and start up phases. The answers comply with a general methodology for application of new services and measures. The first step is the feasibility, which is followed by a pilot operation and completed by evaluation. If the later is positive, a full-scale implementation follows. This is also the approach adopted within the CORELOG pilot projects.

Public and private cooperation seems to be the ideal promoter for general actions, with no particular exceptions for countries and respondents. It is obvious that public promoters and supporters are intended to take part for those actions that might have a wider range of consequences. For instance, improving inbound logistics might not imply an intervention from public sector if related to specific company cases. Nevertheless the **improvement of inbound logistics management can be seen as a general priority in contexts where supply chains are base on strong subcontracting relations** (such as in Italy). In this sense **public measures to reduce transport on own account and free on delivery buying strategies can play a fundamental role as they promote logistics outsourcing and integrate the value chain**.

B.5.2 SPECIFIC ACTIONS

The respondents were provided with a list of specific actions aiming at improvement of logistics, as reported in the following table.

Table 6
Specific actions for logistics improvement

1)	Joint transport ordering system
2)	Joint shipments – integrated outbound logistics optimisation
3)	Common warehousing
4)	Sub-supply centralisation
5)	Joint tenders for buying logistics services
6)	Optimised milk-run system

Experts were asked to assess their implementation priority, feasibility, financial constrains and organisational / technical constrains in their respective countries / areas.

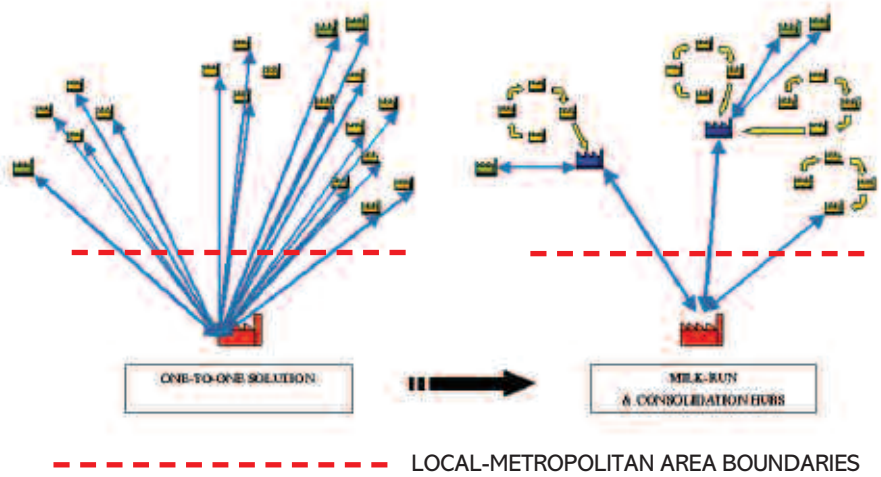
Compared to the general actions, **specific actions are generally evaluated as less important**. All actions have been assigned moderately high and practically equal priorities concerning the need for their implementation. Only the joint transport ordering system was assessed slightly more important as the remaining five actions. Although there are significant constraints assessed – in particular, there are high organisational / technical constraints, the feasibility is assessed as medium, the highest in common warehousing and the lowest (although not much lower from the highest feasibility) in joint tenders for purchasing of logistics services. **Technical constraints are in average higher than financial ones, and indicate lack of experience and good practices.**

Transportation and warehousing represents more than 50% of the logistics costs. Globalization of the economy and fuel price increases makes transportation of goods wider and more expensive. Company's efficiency by SCM is not the same as the social efficiency of transport related phenomena such as congestion and pollution. Networking of companies in the form of sharing of physical assets and physical operations presents technical and economic constraints but it can im-

prove both the companies' economic performance and transport environmental impacts. The specific actions considered by the questionnaire shifts from a virtual networking among companies to a physical coordination of operations. Obstacles are therefore more evident.

Concerning the **suggestions of the experts**:

- **Italy: Regione Emilia-Romagna** and the **Institute for Transport and Logistics (ITL)** bring the example of the **milk run**. The **milk run** is considered as a primary tool for the improvement of inbound flows management in manufacturing companies. The following figure reports the milk run concept.



The milk run application in one company in Emilia-Romagna (within the EU project I-Log – Interreg IIIB CADSES NP) brought the following results.

	Before the Milk-Run	After the Milk-Run
Incoming trucks	14 daily	2 every two days
Waiting time	Queque	Na waiting time
Trasport cost reduction		-37%
Stock turn over		+13% (consumption on stock)
On time deliveries	50%	92%
Staff reduction	9 (from 10-12 to 4-5)	6
Extra work	2 hours per day	0 hours per day
Lead time	5 days	2 days

- **Italy: Regione Emilia-Romagna** and the **Institute for Transport and Logistics (ITL)** bring the example of a study they made within the MATAARI project (EU Interreg IIIB MEDOCC) on a panel of 11 manufacturing companies of an industrial area managed by Consorzio Attività Produttive e Servizi in Modena. The savings that can be gained though **joint transport activities among the companies** is hereafter reported.

	Single companies	Aggregated demand	Absolute Saving	% Saving
Cost per year	7.548.171	5.748.788	1.799.383	23,8
Kilometers per year	8.071.272	5.533.795	2.537.477	31,4
Time spent per year	131.885h 24	99.636h 54	32.348h 18	24,5
N. of routes per yaer	19.316	11.990	7.326	37,9

The savings concern both economic savings for the involved companies and transport environmental impacts reductions (**win-win result**). On the base of this study, a **logistics brokering system** is being developed within the CORELG project, also with a co-financing of the involved companies.

The action joint transport ordering information system has attracted the highest priority of all experts. It shall help in:

- Reducing empty runs.
- Better utilisation of transport capacities.
- Reducing costs.
- Backhaul optimization.

The brokering system proposed by Regione Emilia-Romagna and ITL is a joint transport ordering information system and it gives solutions to common problems:

- managing the distributed production capacity of companies networks and of the relevant logistics needs.
- creating critical masses of transport and logistics orders to be interfaced to the supply side.
- developing economies of scale in the joint buying of services.
- helping transport providers to improve vehicles load factor and vehicles routing.

Outsourcing of logistic operations may actually offer the fastest way to achieve economies of scale by warehousing and transportation activities, reducing empty runs and fragmented routing.

3.C HARMONIZATIONS

This chapter reports on the need for harmonisation at different levels. First of all it assesses the harmonisation needs of two specific measures:

C.1 Harmonising logistics professional knowledge
C.2 Harmonising road carrier regulations

Secondly it assesses the harmonisation needs for all the measures presented in the CORELOG survey (11th transversal measure).

MEASURE C.1
HARMONISING LOGISTICS PROFESSIONAL KNOWLEDGE

Training, education and the certification of skills and competences must be provided through a well-established framework programme promoting educational entities, professional associations and relevant ministries. At present, logistics professions are not well-established, and vary in a significant way from a country to another one, and also among single countries. Consequently, some harmonisation should be taken into account in order to **build a common reference model for logistics jobs**, **shared at EU level**. Measures aiming at the promotion of harmonized classifications for logistics jobs will improve the overall transport and logistics environment and the quality of services, giving a more structured establishment of logistics jobs.

The survey experts were asked to assess whether the measure of harmonising logistics professional knowledge has been already implemented in their countries, and if it was, whether its implementation was successful.

According to answers provided by respondents to the questionnaire, **the measure has mainly not been implemented** (64% of all answers). Out of the remaining 34% indicating the presence of implemented cases, there were about a 6% of successfully implemented cases. This is a significant information, giving the perspective of the local development of logistics professions in each country. In fact, national contexts are different, and specific labour markets and dynamics have determined the definition of specific features of the national jobs in logistics. **With the diffusion of outsourcing of logistics activities, international companies increased their presence in countries different from their head quarter's ones, meeting different needs and specific demands**. **Harmonized profiles would have facilitated the integration and diffusion of efficiencies**. For this reason, it seems necessary to promote a shared model for classifying professions, based on the idea of **exchangeable roles at EU level**, as for university courses with ECTS (European Credits Transfer System). This system allows students to attend courses in various universities abroad and to get recognized at EU scale the exams and the qualifications awarded, in order to obtain an international profile, based on the sum of "credits", a study driver shared in Europe (equivalent to 25 hours of study). In the analyzed case, logistics professionals should meet some shared and formalized requirements, evaluated on common documents.

Individual countries involved in the survey have reported significant differences. The measure has been experimented in all countries (with the exception of the Greek Crete region – G1), but in most of them, there are no successful cases of implementation, except

in Austria and Poland. In some other countries, the process of harmonisation is in progress (promotion and implementation of the ELA standards in certification of logistics professions), but either in a very early stage, or implemented only in specific cases. This issue can be read as an attempt to start the harmonization process. **National governments should take actions to facilitate this process.**

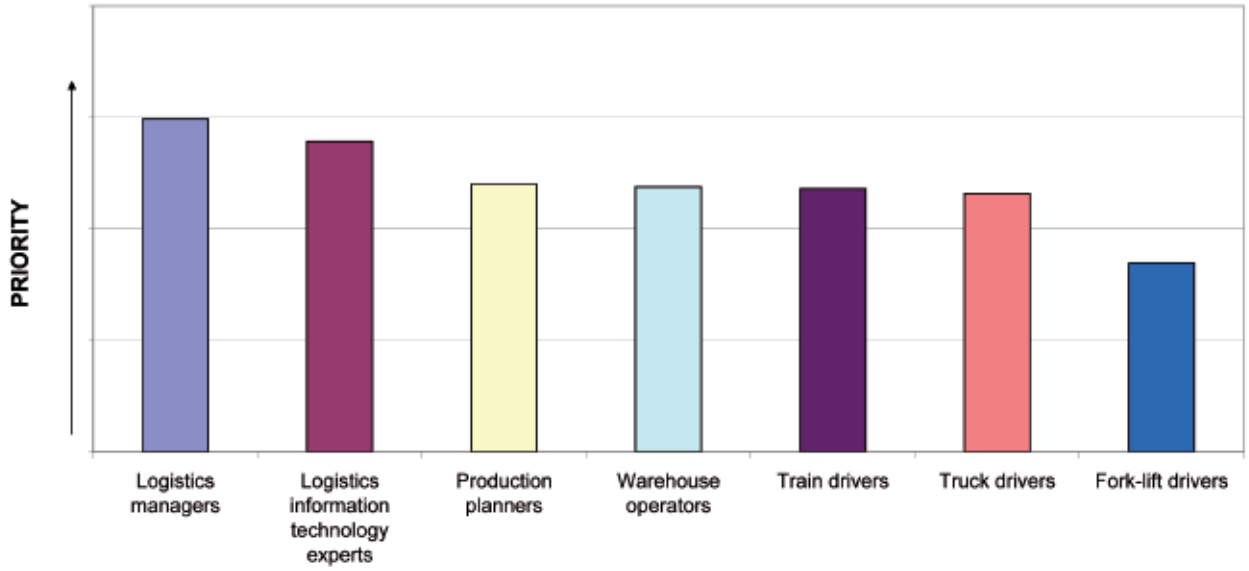
Different groups of respondents involved in assessing the stage of implementation of the measure, have provided significantly different answers. The highest proportion of implemented cases has been reported by the representatives of public sector (over 60%), but with no evidence of successfully implemented actions. Maybe the presence of public competitions for employing workforce helped the formalization of professional figures, even if only at local level. Nevertheless this consideration should also be faced to the stated need for more training in logistics for public servants. On the other hand, the research sector has reported a very high proportion of non-implemented cases, and this can be considered as a lack of specific roles and of the low diffusion of logistics research centres, often derived from economic institutes. **Precise roles and figures definition also in research on logistics seems to be a valid attempt in order to contribute to harmonizing professionals.** The low level of successful implementation examples witnesses the need of further attempts for classifying jobs, to be carried out in each specific country. The business sector has reported on a high proportion of non-implemented cases. The educational sector shows an answer which can be compared to the ones given by public sector. The reason of this behaviour may lie in the similarities that sometimes recruiting of professionals in public sector shows if compared in the education sector (e.g. academic career and similar profiles).

Priority Areas for Harmonisation of Licences for Logistics Jobs:

The participants in the research were asked to assign priorities of harmonisation to different jobs in logistics as listed in the questionnaire (logistics information technology experts, warehouse operators, truck drivers, train drivers, production planners and fork-lift drivers), by ranking them from null (zero) to top.

The answers show a **high priority assigned to logistics managers and logistics information technology experts**. This represent a significant piece of information, consistent with the need for incentives for training of white collars and middle managers in logistics. **Defining shared profiles could be a facilitating and enabling element to build a framework for logistics training and for the allocation of incentives to logistics education**. Moderate priorities have been assigned also to production planners, warehouse operators and train and truck drivers. Also this answer is consistent to the expressed need of logistics training for specific targets. Besides, operative profiles need less formalization of their profession to get evaluated and hired, due to the lower complexity of their figure. However, it is important to underline that for train and truck drivers it should be necessary a sort of certification or habilitating license at EU level: it can be considered as a first element to harmonize the conditions of such profiles. In fact, some countries, like Italy, Central Macedonia, Hungary and Slovenia have assigned rather high priorities to truck drivers. On the other hand, Poland apparently considers low level logistics jobs (truck-, train- and fork-lift drivers) as less important to be harmonized.

Figure 22
Priority Target Groups
for the harmonisation of logistics jobs



The highest average priorities in all jobs were assigned by the Greek Crete region (G1): the logistics scene in Crete requires a modernisation/harmonisation of the logistics jobs. All countries have assigned top priorities to logistics managers and (with the exception of Hungary) to logistics information technology experts. Information technology experts play a key role in creating efficiencies in supply chains: defining precise profiles could help in diffusing "best practices" for information systems diffusion.

Production planners are ranked rather high in all countries. There is a rather high priority assigned to warehouse operators in Austria, Slovenia and Central Macedonia, maybe due to the need for regulating operative profiles to be hired also for temporary jobs in the national and international labour market.

In assessing the differences among priority target groups as defined by four groups of respondents to the questionnaire, it should be underlined that just slight differences were expressed by groups of respondents.

Additional **comments** related to priority target groups:

- Answers on this question show that in the majority of countries there is still demand on knowledge for **high level specialists in logistics** and for **managerial levels**.
- The existing **logistics IT experts** originally do not have logistics education (it is a general IT experts). Therefore it is important to implement and harmonize a training programme that will set the criteria, which a logistics IT expert has to satisfy.
- Surprisingly, **production planners** are a priority target group too. This issue denotes a high level of consciousness of the importance of logistics issues in production planning.

Constrains in harmonising logistics jobs:

The respondents were asked to report the constraints related to the harmonisation of logistics knowledge and jobs and to indicate the constraints type, choosing among the following options: normative constraints, technical constraints, financial constraints, or "no constraints".

Normative constrains appeared to be really a serious problem. They may include lack of well defined **procedures for licensing**, **complicated structures and procedures for introduction of new standards** and programmes in educational sector, **lack of regulations in the field of logistics jobs**.

Technical constraints are ranked second, and they may include **difficulties in the definition of curricula**. In fact harmonisation of logistics jobs at EU level may suffer from **different technical standards and languages in the EU countries**. Financial constraints do not seem to represent significant problem, even if it is required an investment in coordinating the harmonization process.

Circumstances related to the harmonisation of logistics jobs substantially differ among countries, thus identifying on average the presence of all the types of constraints. Greece, for example, has reported 100% of normative constraints in Crete (G1) and almost 80% in Central Macedonia. This information confirms the un-structured situation of this country in logistics training and shows the difficulties in building a formalized logistics training system.

Normative constraints appear as the critical element for the diffusion of the harmonizing process. It is evident that regulation procedures or guidelines should be given by EU specific committees, in order to facilitate the tasks of the single countries. The public sector reported the smallest proportion of normative and technical constraints, as for other measures which were previously described. This indication can be included in the general observations about the presence of some "formalism" in the public sector. The business sector's opinion is, however, completely different, and this is a confirmation of radically different points of view. It reports a very high level normative (over 70% of all answers) and technical constraints. Financial constraints, assigned as important by other sectors, represent no significant problem to business sector, due to the willingness and the need for this process to be carried out.

MEASURE C.2
ROAD CARRIER REGULATIONS

In Europe, most of the freight is carried by road. National legislations concerning road carriers has to be harmonised with European laws providing the operators with better and safer working conditions. 90% of supply chain related transport operations are outsourced to logistic providers or forwarders. Generally speaking, the service providers hire independent road hauliers for carrying and delivering operations. On average, 50% of the logistic costs are allocated to transport operations. Due to the increasing fuel prices, transportation's share on the total logistic costs are rising. **The quality of the transport segment is very important for the customer's satisfaction. Higher customer's requirements for faster and more reliable transport services exert a strong pressure on costs along the whole supply chain but in particular on small road transport enterprises and independent road hauliers.** The danger of deterioration of the quality and safety of road transport is high, in particular in the international freight carrier market. Long driving hours, inaccurate vehicle maintenance, unsatisfactory technical standards by carrying dangerous goods are among the most diffused bad practices. **Unfair competition between road hauliers of different countries with different regulations is a big issue.** In order to avoid the deterioration of quality and safety of the road transport and stop unfair competition, a **harmonization of the different national legislations seems to be an urgent task for the governments**, if the European based companies aim to enforce the competitiveness of their supply chains.

The participants in the investigation were asked to indicate, whether the measure has been already implemented, and if it was, whether its implementation was successful. 57% of negative answers provided by respondents, and a very low proportion of successfully implemented experiences (only 1%), indicate that **the measure has not been implemented**.

As shown in the following figure, only Slovenia has reported some successfully implemented actions. The remaining six countries have reported substantial proportions of "non-implemented" answers, which particularly applies to Crete (G1) and Italy.

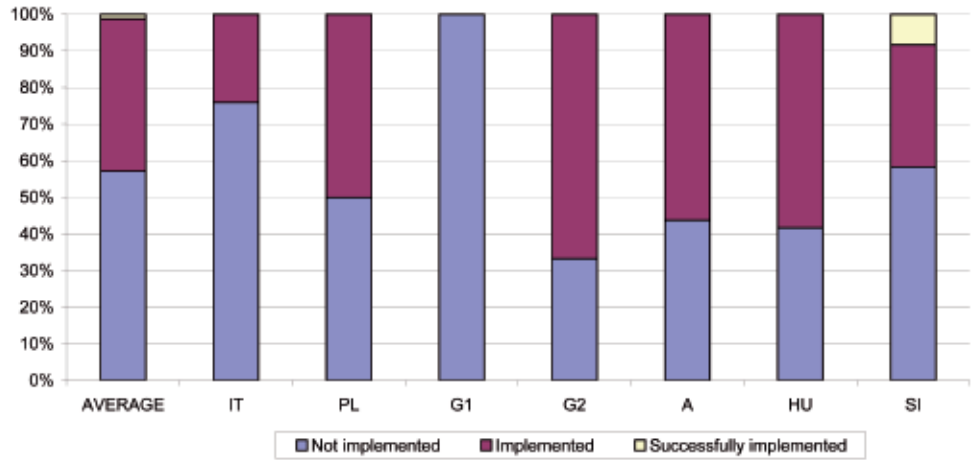


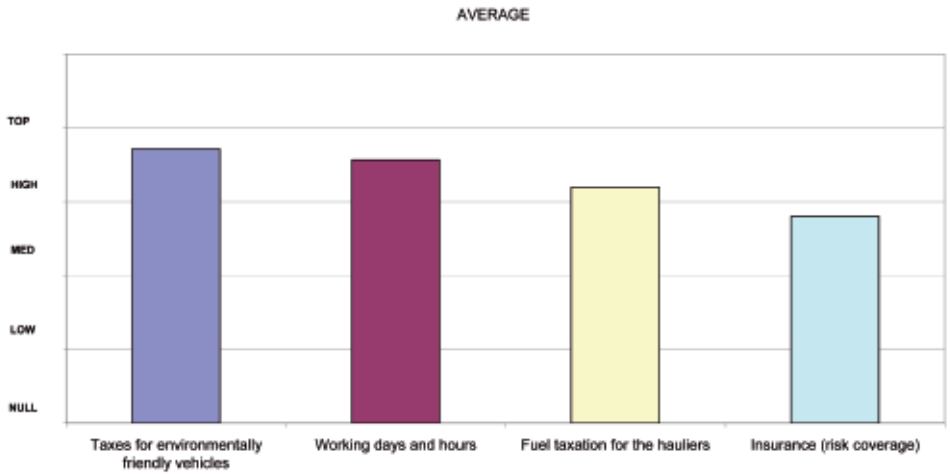
Figure 23
Experience with the harmonisation of Road Carrier Regulations: breakdown by countries

The business sector representatives submitted the highest number of negative answers (measure non-implemented), with no indication of successful implementations. The public sector representatives reported the highest proportion of implemented measures and the lowest proportion of non-implemented measures. The gap between the answers of those groups of respondents could indicate that the implemented measures has been perceived by the business sector as unsatisfactory or with very low effect on usual practices.

The participants in the investigation were also asked to assign priorities to the issues to be harmonised. These issues were working days and hours, fuel taxation for the hauliers, taxes for environmentally friendly vehicles and insurance (risk coverage).

As shown in the following figure, the respondents have assigned **top priority to the environmental issues, namely fiscal measures reducing taxes for environmentally friendly vehicles**. Working time (hours and days) was ranked second, still with a high priority, being followed by fuel tax reduction for hauliers. Insurance (risk coverage) is ranked last, with moderate priority. Strikingly the respondents seem to give priority to **urban related transport operations and to pollution problems caused mainly in the urban and metropolitan agglomerations**. Working time issues are typical for long distance transport operations but for fast delivery short distance operations too. Respondents have recognised to this issue a high priority.

Figure 24
Priority issues to be harmonised
at EU level in road carriers' regulations



The countries involved in the investigation, however, have assigned priorities according to their specific issues and needs. Hungary, Austria and Slovenia assigned high priority to working time. The highest priority on environmental issues was assigned by Poland, which is closely followed by Slovenia and Austria. Central Macedonia assigned the highest priority to insurance (risk coverage). The issue is highly prioritised also in Italy and Crete.

In analyzing the answers submitted by the groups of respondents, it should be outlined that the business sector assigned almost equally high priorities to taxes for environmentally friendly vehicles, fuel taxation and working time. In case of fuel taxation and insurance, their priority is higher than in any of the other groups.

Environmental issues (tax on environmentally friendly vehicles) are most promoted by the public sector and by the representatives of the educational sector. Research sector, in contrast, assigned the highest priority to working time.

The environmental priority is highly marked by both individual countries and experts categories, which indicates a high awareness of the negative impact of transport. But measures on taxation should have important consequences on fleet renewal by small companies, supporting their investments in lower emission vehicles.

Concerning the working time (days and hours), there are several issues to be harmonized

- Road transport contracts which do not comply with the CRM Convention
- There are differences in overall taxes among countries and in charges for environmentally friendly vehicles

The respondents were finally asked to report the constraints related to the harmonisation of road carrier regulation, and to indicate their type, choosing among the following options: economic constraints, technical constraints, financial constraints, or "no constraints".

Normative and technical constraints play an important role. The presence of "No constraints" was reported by less than 10% of all answers. A matter of concern may be the **lack of trust in the capacity of control on the regulation's compliance**.

Similarly as in all other measures, the public sector reports rather lower constraints (with the exception of normative constraints) and rather higher proportion of answers "no constraints" than the other sectors do.

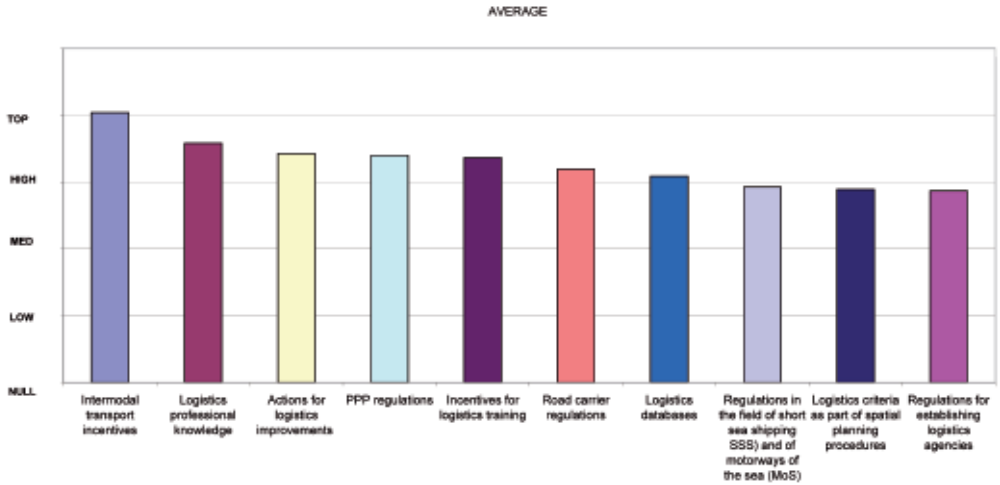
It should be pointed out that the consideration of the constraints depends on the knowledge on the implementation of the regulations. Normative and financial constraints are high and the measure has generally not been implemented yet.

3.D FINAL EVALUATION: NEED FOR HARMONISATION OF LOGISTICS MEASURES AT THE EU LEVEL

The respondents have chosen **intermodal transport incentives as the most important field to be harmonized** (they also assigned the top priority to it as they did when asked to judge the importance of the single measure). Regulations in the field of SSS and MoS, Logistics criteria as part of spatial planning procedures and Regulations for establishing logistics agencies were assigned medium priority.

It could seem that disparity of intermodal incentives in the EU countries has been perceived as the most significant constraint in the logistics driven freight transport market. Nevertheless, looking at the respondents' answers concerning subsidies to intermodal transport in the first chapter of this book, they clearly assigned to the infrastructural issues, as the implementation of network and nodes, the highest priority. 53% of respondents did not find any implementation concerning intermodal subsidies in their countries. So it seems reasonable to understand the priority assigned to intermodal transport incentives as a pressure to completion of the European railway infrastructure, with seamless technical interoperability and harmonization of rules and procedures. The second highest ranked harmonization measure is the **logistic professional knowledge**. There is a clear perception of the huge disparities between countries as the diffusion of best practices and training standards regards. Paneuropean logistics require the same quality and efficiency standards along the entire supply chain.

Figure 25
Need for harmonisation
of logistics measures at the EU level



Annex

Survey format

GUIDE FOR COMPLETION

This survey is designed to asses the necessary measures and actions for improving logistics policies in EU countries and regions.

The result of the survey will be provided to relevant national and local bodies and policy makers in the field of logistics.

This excel file is composed of 4 sheets (further than the Cover and this Guide for completion):

SHEET: Evaluator
Please fill in your personal data. In any case they will be diffused only under your authorization.

The following 3 sheets indicate 3 different groups of measures which have to be evaluated:

[illegible]
You are kindly requested to evaluate 3 measures (A.1, A.2, A.3) on **incentives**, by expressing your preferences. (Scroll down to see the entire text of the sheet A.) At the end of this group of measures, you are kindly asked to give a ranking order of priority of the measures (first through third)

SHEET: B. Implementations
You are kindly requested to evaluate 5 measures (B.1, B.2, B.3, B.4, B.5) on **implementations**, by expressing your preferences. (Scroll down to see the entire text of the sheet B.) At the end of this group of measures, you are kindly asked to give a ranking order of priority of the measures (first through fifth)

SHEET: C. Harmonisations
You are kindly requested to evaluate 2 measures (C.1, C.2) on **harmonisation** needs, by expressing your preferences. (Scroll down to see the entire text of the sheet C.) At the end of this group of measures, you are kindly asked to give a final evaluation by inserting your priority (from NULL to TOP)

The answers should be based on your personal views on the requirements of your regional/national context.

For each measure the **Part 1** concerns a **detailed evaluation** and **Part 2** concerns a **general evaluation** of the measure.

You answer the questions by:

1. **Inserting the priority** (N-Null, L-Low, M-Medium, H-High, T-Top), using the drop-down menu or inserting priority (N, L, M, H, T) directly
2. **Inserting X,** in one or more spaces as indicated.
3. **Filling in your rank order** in the spaces provided using the numbers 1 through *n (please give an order of priority).*
4. **Listing action nubers** suitable for each category.

Moreover in each question there is also the possibility of **inserting your additional comments and/or suggestions.**

Only the cells in "white" are to be used (all others are blocked)

EVALUATOR

Name and surname:

Company/Institution:

Address:

Country:

E-mail and phone:

Evaluator profile:

Profile	Please insert *X*
Public services/Government	
Business (manufacturing, logistics services,...)	
Research/consulting	
Education	

THE CORELOG CONSORTIUM ENSURES THE CONFIDENTIALITY OF YOUR ANSWERS TO THIS SURVEY.

IF YOU AGREE, YOUR NAME WILL BE INCLUDED IN THE LIST OF EXPERTS CONTRIBUTING TO THIS SURVEY IN THE FUTURE PUBLICATION ON THE RESULTS.

Please insert X

☐ I AGREE

☐ I DISAGREE

A. INCENTIVES

MEASURE A.1 - INCENTIVES/SUBSIDIES FOR INTERMODAL TRANSPORT
(Financing and/or giving public incentives to intermodal transport: infrastructure and services)

Part 1: Detailed evaluation

		Priority (N, L, M, H, T)	Comments/suggestions
Targets for public subsidies/incentives for intermodal transport	Logistics nodes		
	Infrastructure (roads, tracks, links)		
	Transport providers		
	Transport users		
	Development and construction of innovative logistics equipment (ICT, manipulation, rolling stock,...)		
	Others (specify):		
Specific targets for public subsidies/incentives for intermodal transport	**NODES**	**Priority (N, L, M, H, T)**	**Comments/suggestions**
	Feasibility and final studies		
	Land		
	Construction of logistics nodes		
	Information systems and equipment		
	Location of logistics companies and related logistics services within nodes		
	Others (specify):		
	INFRASTRUCTURE LINKS	**Priority (N, L, M, H, T)**	**Comments/suggestions**
	Main network infrastructure		
	Nodes-network connections		
	Industrial sidings (railtracks to companies)		
	Others (specify):		
	TRANSPORT PROVIDERS	**Priority (N, L, M, H, T)**	**Comments/suggestions**
	Subsidies per tkm		
	Subsidies per driven km		
	Tax incentives		
	Others (specify):		
	TRANSPORT USERS	**Priority (N, L, M, H, T)**	**Comments/suggestions**
	Per tkm		
	Per tonne		
	Tax incentives		
	Others (specify):		

Part 2: General evaluation

		Please insert only one *X*	Comments/suggestions
Experiences - Has the measure A.1 already been implemented in your national/regional context?	Not implemented		
	Implemented		
	Successfully implemented		
		Please insert *X*	**Comments/suggestions**
Please indicate the constraints for the implementation of the measure A.1	No constraints		
	Financial		
	Normative (e.g. lack of regulations, ...)		
	Others (specify):		

A. INCENTIVES

MEASURE A.2 - INCENTIVES FOR THE DEVELOPMENT OF SHORT SEA SHIPPING (SSS) AND OF MOTORWAYS OF THE SEA (MoS) (Financing and/or giving incentives for SSS and MoS: services and operations)			
Part 1: Detailed evaluation			
Priority fields		Priority (N, L, M, H, T)	Comments/suggestions
	Ports		
	Infrastructure links		
	Port's equipment		
	Information systems and ITS		
	Ships		
	Services		
	Others (specify):		
Priority beneficiaries of incentives		Priority (N, L, M, H, T)	Comments/suggestions
	Port operators		
	Shipping companies		
	Logistics providers		
	Road hauliers		
	Transport users		
	Others (specify):		
Part 2: General evaluation			
Experiences - Has the measure A.2 already been implemented in your national/regional context?		Please insert only one *X*	Comments/suggestions
	Not implemented		
	Implemented		
	Successfully implemented		
Please indicate the constraints for the implementation of the measure A.2		Please insert *X*	Comments/suggestions
	No constraints		
	Financial		
	Economic (e.g. lack of market demand, ...)		
	Normative (e.g. lack of regulations, ...)		
	Others (specify):		

A. INCENTIVES

MEASURE A.3 - INCENTIVES FOR LOGISTICS TRAINING (Financing and/or giving incentives for logistics training)			
Part 1: Detailed evaluation			
Priority topics for training programmes		**Priority (N, L, M, H, T)**	**Comments/suggestions**
	Transport optimisation		
	Warehousing		
	Inventory management		
	Logistics planning		
	Logistics informatics		
	Intelligent Transport Systems		
	Logistics best practice transfer		
	Others (specify):		
Target groups for training		**Priority (N, L, M, H, T)**	**Comments/suggestions**
	Top management		
	White collars in logistics		
	Blue collars in logistics		
	Public servants		
	Students & Researchers		
	Consultants		
	Others (specify):		
Founding sources for training		**Priority (N, L, M, H, T)**	**Comments/suggestions**
	International/EU		
	National		
	Regional		
	Users		
	Others (specify):		
Part 2: General evaluation			
Experiences - Has the measure A.3 already been implemented in your national/regional context?		**Please insert only one *X***	**Comments/suggestions**
	Not implemented		
	Implemented		
	Successfully implemented		
Please indicate the constraints for the implementation of the measure A.3		**Please insert *X***	**Comments/suggestions**
	No constraints		
	Financial		
	Economic (e.g. lack of market demand, ...)		
	Technical (e.g. lack of experimented training models, ...)		
	Normative (e.g. lack of defined patterns for the incentives, ...)		
	Others (specify):		

A. INCENTIVES

FINAL EVALUATION OF THE MEASURES ON INCENTIVES		
	Ranking in order 1 through 3 (1-first choice; 3-last choice)	Comments/suggestions
A.1 - Incentives/subsidies for intermodal transport		
A.2 - Incentives for the development of SSS and MoS		
A.3 - Incentives for logistics training		

Please go to the next sheet if you supplied all the information.

B. IMPLEMENTATIONS

MEASURE B.1 - IMPLEMENTING PUBLIC PRIVATE PARTNERSHIP (PPP) SCHEMES IN THE FIELD OF LOGISTICS			
Part 1: Detailed evaluation			
Indicate the optimal field of PPP implementation	Logistics infrastructure investments	Priority (N, L, M, H, T)	Comments/suggestions
	Logistics centres		
	Warehouses		
	Transport terminals		
	Infrastructure links (to logistics nodes)		
	Roads, railway tracks		
	Others (specify):		
	Logistics services	Priority (N, L, M, H, T)	Comments/suggestions
	Management of logistics operations		
	Management of logistics capacities/facilities		
	Executing of logistics services (e.g. Intermodal transport, ...)		
	Logistics research		
	Logistics consulting		
	Logistics education		
	Others (specify):		
	Indicate priority	Please insert only one *X*	Comments/suggestions
	PPP in the field of logistics infrastructure investments		
	PPP in the field of logistics services		
Part 2: General evaluation			
Experiences - Has the measure B.1 already been implemented in your national/regional context?		Please insert only one *X*	Comments/suggestions
	Not implemented		
	Implemented		
	Successfully implemented		
Please indicate the constraints for the implementation of the measure B.1		Please insert *X*	Comments/suggestions
	No constraints		
	Normative (e.g. lack of legal provisions, ...)		
	Technical (e.g. lack of experience/good practices, ...)		
	Others (specify):		

B. IMPLEMENTATIONS

MEASURE B.2 - ESTABLISHMENT OF A LOGISTICS AGENCY
(Regional/national agency responsible for promoting and supporting logistics development)

Part 1: Detailed evaluation

		Priority (N, L, M, H, T)	Comments/suggestions
Indicate the main functions of a logistics agency	Logistics policy framework definition		
	Logistics planning		
	Reference point for collecting stakeholders logistics needs		
	Supporting and coordinating logistics services development at national/regional level		
	Initiating research & development and studies in the field of logistics		
	Logistics training standards definition		
	Promoting sustainable logistics solutions		
	Promotion of transfer of best practices		
	Others (specify):		
		Please insert only one X	**Comments/suggestions**
Ownership	Public		
	Private		
	Public-Private		
		Please insert only one X	**Comments/suggestions**
Organisational level	International/EU		
	National		
	Regional		
		Priority (N, L, M, H, T)	**Comments/suggestions**
Logistics agency stakeholders	National government		
	Regional government		
	Research institutes/universities		
	Chambers of commerce and crafts		
	Associations of enterprises / business clusters		
	Manufacturing companies		
	Logistics nodes and infrastructure managing bodies		
	Logistics services providers		
	Others (specify):		

Part 2: General evaluation

		Please insert only one X	Comments/suggestions
Experiences - Has the measure B.2 already been implemented in your national/regional context?	Not implemented		
	Implemented		
	Successfully implemented		
		Please insert X	**Comments/suggestions**
Please indicate the constraints for the implementation of the measure B.2	No constraints		
	Financial		
	Technical (e.g. lack of experiences/good practices, ...)		
	Normative (e.g. lack of legal provisions, ...)		
	Others (specify):		

B. IMPLEMENTATIONS

MEASURE B.3 - DEVELOPMENT OF DATABASES ON LOGISTICS (Building database facilities for companies and public bodies)			
Part 1: Detailed evaluation			
Do EUROSTAT statistics data on logistics satisfy your needs?		Please insert only one X	Comments/suggestions
	Yes		
	No		
Do NATIONAL statistics data on logistics satisfy your needs?		Please insert only one X	Comments/suggestions
	Yes		
	No		
Do REGIONAL statistics data on logistics satisfy your needs?		Please insert only one X	Comments/suggestions
	Yes		
	No		
Is there a need for ADDITIONAL data in international/national/regional databases		Priority (N, L, M, H, T)	Comments/suggestions
	Logistics capacities (warehouses, container terminals, logistics centres, etc)		
	Transport providers characteristics (capacities and characteristics of rolling stock, transport capacities per mode, destinations, transport frequencies, etc.)		
	Education in transport and logistics (e.g. courses and related contents, available financing, ...)		
	Research and consultancy (e.g. best practices, consulting services/companies, studies and projects, ...)		
	Others (specify):		
Part 2: General evaluation			
Experiences - Has the measure B.3 already been implemented in your national/regional context?		Please insert only one X	Comments/suggestions
	Not implemented		
	Implemented		
	Successfully implemented		
Please indicate the constraints for the implementation of the measure B.3		Please insert X	Comments/suggestions
	No constraints		
	Financial (data collecting and processing)		
	Normative (international data harmonisation problems)		
	Technical (e.g. data collection problems, ...)		
	Others (specify):		

B. IMPLEMENTATIONS

MEASURE B.4 - LOGISTICS CRITERIA AS PART OF SPATIAL PLANNING PROCEDURES
(In order to achieve sustainable logistics aims the official start up documentation for location of industrial zones, clusters and manufacturing (trading) companies should also include the logistics criteria)

Part 1: Detailed evaluation

		Please insert only one *X*	Comments/suggestions
Do you consider that the logistics criteria should be part of the official documentation needed for locating a (new) manufacturing (trading) company or industrial zone?	Yes		
	No		
		Priority (N, L, M, H, T)	**Comments/suggestions**
Which of the following preferential criteria for placing companies in industrial areas are crucial:	Belong to the same industry/supply chain		
	Willing/need to share logistics facilities		
	Companies which have customers and/or suppliers located in the same geographic area		
	Others (specify):		

Part 2: General evaluation

		Please insert only one *X*	Comments/suggestions
Experiences - Has the measure B.4 already been implemented in your national/regional context?	Not implemented		
	Implemented		
	Successfully implemented		
		Please insert *X*	**Comments/suggestions**
Constraints for implementation of the measure B.4	No constraints		
	Technical (e.g. lack of good practices/experiences, ...)		
	Financial		
	Economic (e.g. side effects on the labour market, ...)		
	Others (specify):		

B. IMPLEMENTATIONS

MEASURE B.5 - ACTIONS FOR LOGISTICS IMPROVEMENTS
(Promoting and developing new optimal (sustainable) logistics solutions in/among the companies on the regional/national/international level)

B.5.1 - General actions
(Please evaluate importance of implementation and possible constraints of the below listed actions)

Part 1: Detailed evaluation

		Priority (N, L, M, H, T)	Comments/suggestions
[Nr. 1] Improvement of logistics activities in manufacturing/trading companies by means of better coordination of their suppliers and customers	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 2] Improvement of inbound logistics activities in the companies	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 3] Rationalisation of logistics activities by means of networking of manufacturing companies in the field of procurement and sales (supply chain optimization)	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 4] Solutions helping manufacturing/trading companies in finding optimal logistics providers and services	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 5] Adoption of information and communication technologies (ICT) for managing of logistics activities in manufacturing and logistics services companies	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 6] Promoting and developing interoperability of logistics information systems (at least among cooperating manufacturing and logistics services companies)	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		

		Priority (N, L, M, H, T)	Comments/suggestions
[Nr. 7] Cooperation among transport providing SMEs for strengthening their market position and optimizing transport services	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
		Priority (N, L, M, H, T)	Comments/suggestions
[Nr. 8] Promoting cooperation among companies/regions in order to disseminate best practice solutions	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
		Priority (N, L, M, H, T)	Comments/suggestions
[Nr. 9] Supporting development (and usage) of open pool palette systems (4PL management of empty palettes, containers, packaging, etc.) in order to improve sustainability in the field of reverse logistics flows.	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
		Priority (N, L, M, H, T)	Comments/suggestions
[Nr. 10] Other specify:	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
		Priority (N, L, M, H, T)	Comments/suggestions
Promoter/supporter of these actions?	Public		
	Private		
	Public-Private		
		Priority (N, L, M, H, T)	Comments/suggestions
Possible role of public bodies	Financing the feasibility study of the actions		
	Financing the test of the actions		
	Financing the full scale implementation		
	Development and implementation of measures for listed actions		
	Promotion of the transfer of best practice/education		
	Others (specify):		
Part 2: General evaluation			
Experiences - Have the actions (Nr. 1 to 10) already been implemented in your national/regional context?		List action numbers (e.g. 1,4,6...)	Comments/suggestions
	Not implemented		
	Implemented		
	Successfully implemented		

B. IMPLEMENTATIONS

B.5.2 - Specific actions
(Please evaluate importance of implementation and possible constraints of the below listed actions)

Part 1: Detailed evaluation

		Priority (N, L, M, H, T)	Comments/suggestions
[Nr. 1] **JOINT TENDERS FOR BUYING LOGISTICS SERVICES** (More manufacturing companies benchmark and jointly buy logistics services in order to strengthen their bargaining power)	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 2] **OPTIMISED MILK-RUN SYSTEM** (Optimised transport of goods from suppliers on a defined delivery route where various stops are pre-scheduled - timing and quantities)	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 3] **JOINT TRANSPORT ORDERING INFORMATION SYSTEM** (Transport ordering system for more manufacturing companies which helps to optimise load factors and empty run of vehicles, reduces transport costs and improves transport reliability)	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 4] **SUB-SUPPLY CENTRALISATION** (Creating a logistics platform in order to optimise inbound logistics flows from suppliers and sub-suppliers located in the same geographical area)	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 5] **JOINT SHIPMENTS - INTEGRATED OUTBOUND LOGISTICS OPTIMISATION** (More manufacturing companies jointly plan and manage logistics operations in order to rationalise their logistics flows to distribution points or customers)	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		
[Nr. 6] **COMMON WAREHOUSING** (More manufacturing companies outsource the inbound and outbound logistics flows by means of common warehousing)	Implementation priority		
	Feasibility		
	Financial constraints		
	Organisational/technical constraints		
	Other constraints:		

Part 2: General evaluation

		List action numbers (e.g. 1,4,6...)	Comments/suggestions
Experiences - **Have the actions (Nr. 1 to 6) already been implemented in your national/regional context?**	Not implemented		
	Implemented		
	Successfully implemented		

B. IMPLEMENTATIONS

FINAL EVALUATION OF THE MEASURES ON IMPLEMENTATION		
	Ranking 1 through 5 (1-first choice; 5-last choice)	Comments/suggestions
B.1 - Implementing public private partnership schemes in the field of logistics		
B.2 - Establishment of a logistics agency		
B.3 - Development of databases on logistics		
B.4 - Spatial planning for industrial areas settlement		
B.5 - Actions for logistics improvements		

Please go to the next sheet if you supplied all the information.

C. HARMONISATION

MEASURE C.1 - HARMONISING LOGISTICS PROFESSIONAL KNOWLEDGE (DOCUMENTS) (Is there a need for harmonisation at the EU level ?)			
Part 1: Detailed evaluation			
Priority areas		Priority (N, L, M, H, T)	Comments/suggestions
	Logistics managers		
	Logistics information technology experts		
	Warehouse operators		
	Truck drivers		
	Train drivers		
	Production planner		
	Fork-lift drivers		
	Others (specify):		
Part 2: General evaluation			
Experiences - Has the measure C.1 already been implemented in your national/regional context?		Please insert only one *X*	Comments/suggestions
	Not implemented		
	Implemented		
	Successfully implemented		
Please indicate the constraints for the implementation of the measure C.1		Please insert *X*	Comments/suggestions
	No constraints		
	Financial		
	Technical (e.g. difficulties in curricula definition, ...)		
	Normative (e.g. lack of well defined procedures for licensing)		
	Others (specify):		

C. HARMONISATION

MEASURE C.2 - ROAD CARRIER REGULATIONS (Harmonising the regulations at EU level ?)			
Part 1: Detailed evaluation			
Issues to be harmonised		Priority (N, L, M, H, T)	Comments/suggestions
	Working days and hours		
	Fuel taxation for the hauliers		
	Taxes for environmentally friendly vehicles		
	Insurance (risk coverage)		
	Others (specify):		
Part 2: General evaluation			
Experiences - Has the measure C.2 already been implemented in your national/regional context?		Please insert only one *X*	Comments/suggestions
	Not implemented		
	Implemented		
	Successfully implemented		
Please indicate the constrains for the implementation of the measure C.2		Please insert *X*	Comments/suggestions
	No constrains		
	Economic (side effects on labour market and competitiveness, ...)		
	Technical (e.g. lack of capacity to control the regulations compliance, ...)		
	Normative (e.g. lack of comparable procedures, ...)		
	Others (specify):		

C. HARMONISATION

FINAL EVALUATION		
Need for HARMONISATION of logistics measures at the EU level ?		
	Priority (N, L, M, H, T)	Comments/suggestions
Intermodal transport incentives		
Regulations in the field of Short Sea Shipping (SSS) and of Motorways of the Sea (MoS)		
Incentives for logistics training		
PPP regulations		
Regulations for establishing logistics agencies		
Logistics databases		
Logistics criteria as part of spatial planning procedures		
Actions for logistics improvements		
Logistics professional knowledge		
Road carrier regulations		

Thank you for your cooperation.

Disclaimer

Neither the project partners nor any of their officers, employees, agents, contractors shall be responsible or liable in negligence or otherwise howsoever in respect of any inaccuracy or omission herein. Without derogating from the generality of the information of this publication, the project partners, their officers, employees, agents and contractors shall not be liable for any direct or indirect or consequential loss or damage caused by or arising from any information or inaccuracy or omission herein.