

POSMETRANS

Policy measures for innovation in **T**RANSport sector with special focus
 on **S**mall- and **M**edium sized **E**nterprises
 - Factors and recommendations for success and sustainability -

Deliverable 5.3

The impact of policy measures on innovation in the field of transport and logistics

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Content

Figures Index.....	3
1. Abstract.....	4
2. Introduction.....	4
2.1. Objectives of the Project.....	4
2.2. Data collection approach.....	4
3. Findings from Partner Related Data Collection.....	5
3.1. Methodology and database.....	5
3.2. Findings on European Level.....	5
3.3. Findings on National Level.....	6
4. Methodology and Findings of Survey.....	6
5. Case Studies & Examples of policies with high impact on innovation.....	14
5.1. Funding programmes.....	15
5.2. Law and / or regulations.....	15
5.3. Action plans, guidelines, white papers.....	16
6. Conclusions from Experts Panel.....	17
7. Recommendations of Experts.....	18
8. Overall Conclusions.....	18
8.1. Law and / or regulations.....	18
8.2. Action plans, guidelines, white papers.....	19
8.3. Funding programmes.....	20
9. Conclusions Focused on SMEs.....	22
9.1. Law and / or regulations.....	22
9.2. Action plans, guidelines, white papers.....	22
9.3. Funding programmes.....	23
10. Summary.....	23

Figures Index

Figure 1: Awareness Level of different stakeholders	7
Figure 2: Reasons for not taking part in a EU Funding Programme	8
Figure 3: Positive experience concerning EU Funding Programmes	8
Figure 4: Negative experience concerning EU Funding Programmes	9
Figure 5: Benefits complying with regulations: Companies.....	9
Figure 6: Difficulties complying with regulations: Companies	10
Figure 7: Requests for better implementation of Law/Regulations: Companies	10
Figure 8: Relevant channel concerning information: Companies.....	11
Figure 9: Relevant channel concerning information: Institutes.....	11
Figure 10: Relevant channel concerning information: Networks	12
Figure 11: Relevant channel concerning information: Public Bodies	12
Figure 12: Impact of policy on daily business and innovation: Companies	13
Figure 13: Impact of policy on daily business and innovation: Institutes	13
Figure 14: Impact of policy on daily business and innovation: Networks	14

1. Abstract

The document is prepared as a conclusion of findings from collected data and the POSMETRANS expert panel. The report focuses on the identified approaches from law & regulations, action plans and guidelines and funding programs. A specialized focused is on SMEs in order to show their state of art regarding innovation and their ability to enhance their capability by using mentioned indicators. These popular drivers of change in the transportation sector are greening Technologies and co-modality.

From the collected data and experts' inputs, it is seen that comprehensive policies which can complement each other are the key points for success. Reaching the right information channels and networking are also playing a very important role of intermediation between companies and stakeholders in the implementation process.

All findings emphasized on the importance for these countries regarding the advantages for the adoption to EU level.

2. Introduction

2.1. Objectives of the Project

The POSMETRANS project aims at analysing policy measures in the surface transport sector both on EU and national level, in order to find out how these measures can influence the market take-up of innovative technologies and processes. At the end of the project, recommendations for innovation policy strategies – with a special focus on SMEs – will be elaborated and a handbook will be prepared.

2.2 Data collection approach

The focus is on identifying the relevant policy measures both on EU and national level. The work is divided into two steps:

In the first step: The project partners collected policy measures in EU and national level.

- Data collection of EU and national policies in Europe
- Analysis of the data, using criteria for the evaluation of each policy with conclusions about the most relevant policies on which we should focus in the project and on the relationship between EU and national policies. In particular, we should distinguish how EU policies are implemented on national level.

In the second step: The project partners prepared four different questionnaires and applied this survey to different stakeholders (Companies, Public Bodies, Institutes and Networks).

- Surveys are applied to different stakeholders
- Collected data are analysed by using graphs and results which are relevant with each other used to make reliability analysis.

The results of the Analysis discussed by the Experts on the panel meetings, is organized in the frame of the transport & logistic fair in Munich in May 2011.

3. Findings from Partner Related Data Collection

3.1. Methodology and database

The data collection was realised by all POSMETRANS partners.

Collected policies are arranged in the following tree structure (consisting of four distinct levels and sublevels):

- EU
 - o EU funding programmes
 - o EU laws and / or regulations
 - o EU white papers, action plans, guidelines
- National
 - o Partner Countries
- Other (regional or multi-national)
 - o e.g. Nordic countries, Baltic States, Alpine countries, France/Germany
- Global
 - o e.g. convention (if they have a direct influence on EU policies)

These transport and technology keywords are used to identify the extent of each policy measure, as well as to link them to the technology field in which they foster innovation.

The innovative process in the surface transport sector is manifold and quite complex, because it involves several means of transport and roads, railways and water as well as large technology domains like information and communication technologies (ICT), new materials and greening technologies. Innovative concepts in the domains of co-modality and safety & security are also involved. Findings on European Level

3.2 Findings on European Level

12% of all law and regulation policies on European level concern all transport modes (Rail, Road, and Water); this equals to 5 out of the 42 collected policies. Moreover, 44% of the total of 36 EU action plans which were collected by POSMETRANS, concern all transport modes.

Lastly, 92% of all EU Funding programmes collected by POSMETRANS partners concern all transport modes, this corresponds to 11 of the 12 gathered policies.

Key findings:

EU Laws and Regulations have the highest value with respect to their mandatory level and are highly concerned with environmental issues, whereas they are not much consumer oriented.

Similarly, **EU Action Plans** have the highest value with respect to ease of enforcement which means that they are seemingly easy to implement. And deeply concerned by environmental issues, as well as they are not much consumer oriented.

Furthermore, **EU Funding Programmes** are highly concerned with environmental issues and level of support to R&D activities. On average, the participation of SMEs (percentage of funding programmes allocated to SMEs) in EU funding programmes is low.

3.3 Findings on National Level

National level policies which include all transport modes with division to three groups:

- laws and regulations
- action plans
- funding programmes

Key findings:

National laws and regulations have the highest value with respect to their mandatory level, are seemingly easy to implement and they are not much consumer oriented.

National action plans and guidelines are seemingly easy to implement and they are not much consumer oriented.

National funding programmes have a strong impact on SME participation, level of support to R&D activities and they are not much consumer oriented and are seemingly easy to implement.

EU Commission aims to move transport further towards sustainability. EU Commission has published lots of transport packages (“**White paper** – ‘European transport policy for 2010: time to decide’ ”, “**Transport 2050**: Commission outlines ambitious plan to increase mobility and reduce emissions”, “A sustainable future for transport” etc.) and stress on adopting a comprehensive strategy competitive transport system that will increase modality by improving co-modality strategies and technologies and enhance environmental friendly concept by improving green technologies, materials.

As a result of the expected growth of transportation in and around Europe, transport emissions, and especially CO₂, are also a continuing concern for policymakers and practitioners. The focus is on enabling the choice of environmentally friendly modes and transport technology, while concentrating on innovative greening technologies and materials.

In this perspective, POSMETRANS focused on “co-modality” and “greening” as in white papers and EU publications which can be seen as main drivers of innovation in transport.

The Panel Meeting focused on popular drivers of change in transportation sector;

- Greening technologies
- Co – modality

4. Methodology and Findings of Survey

The survey bases on questionnaires for innovation stakeholders. The project partners prepared four different questionnaires and applied this survey to 48 different stakeholders (21 Companies, 8 Organizations like Public Bodies, 13 Institutes and 6 Networks).

- The Surveys are applied to different stakeholders
- The collected data are analysed by using graphs and results which are relevant with each other used to make reliability analysis.

- ▶ Objective: Analysis impact of policy measures to see how policy measures affect various groups in society.
- ▶ Implementation: Four different questionnaires for innovation stakeholders / pioneer investors.
 - ▶ Stakeholders in the area of innovation were divided into distinct groups which are SME and large companies; research institutes, networks and public bodies.

Every partner assessed stakeholders according to prepared questionnaires. One of the questions asked concerned the awareness level on policy measures. Positive and negative experiences on participation in funding programmes were also examined to determine problems and solutions for related issues. The results are shown in the following figures:

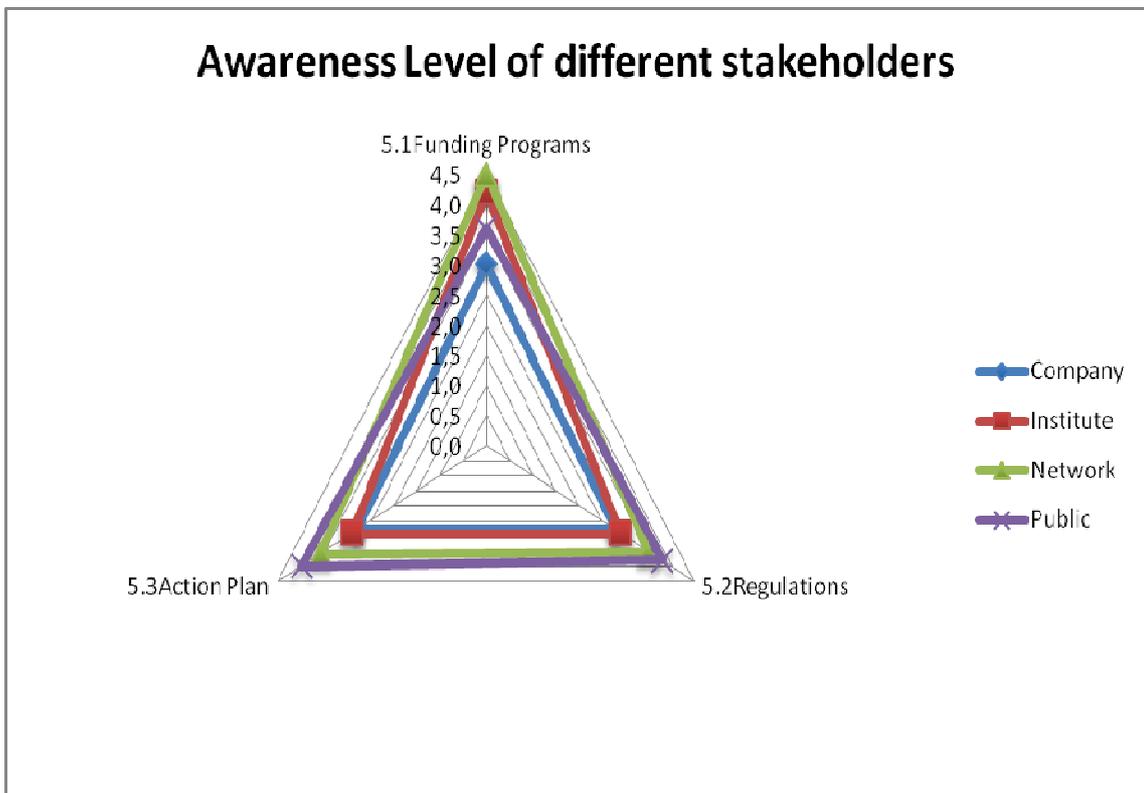


Figure 1: Awareness Level of different stakeholders

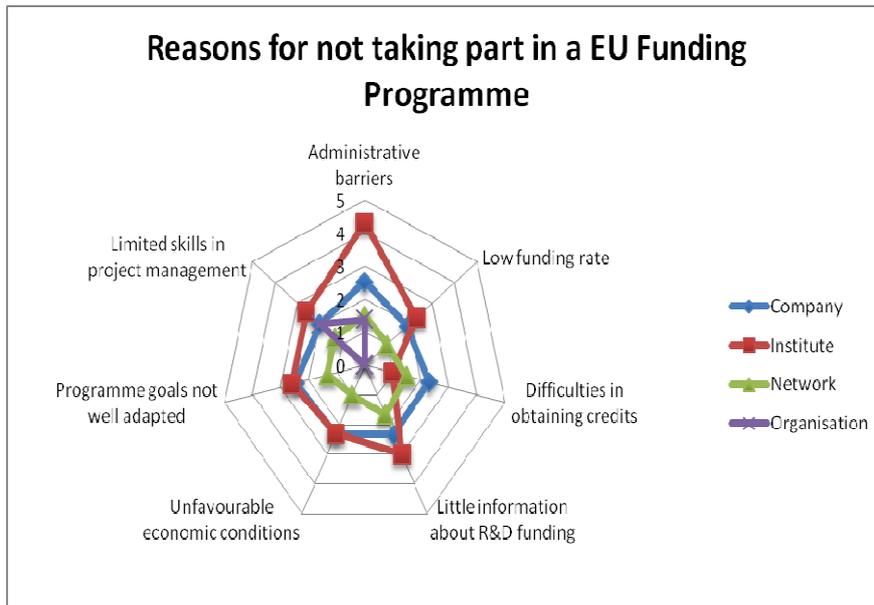


Figure 2: Reasons for not taking part in a EU Funding Programme

The awareness level of networks on funding programmes is high impact while companies have less knowledge on funding programmes. Public bodies have high awareness level on action plans and regulations (Fig. 1).

Administrative barriers, lack of information about R&D programmes are the main reasons for not taking part in EU funding programmes (Fig. 2).

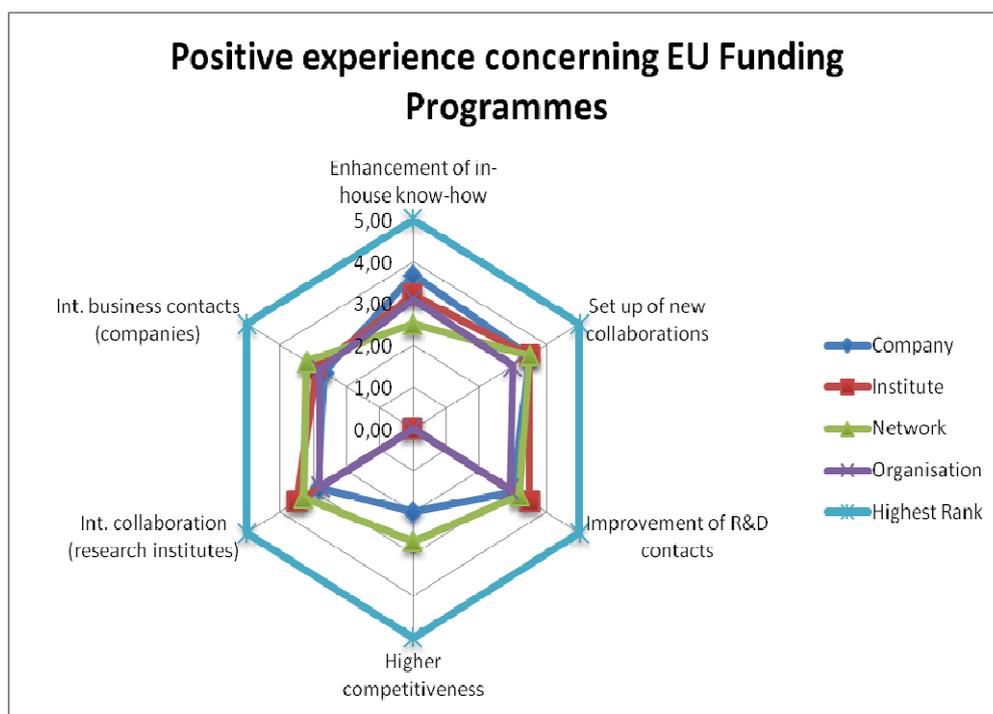


Figure 3: Positive experience concerning EU Funding Programmes

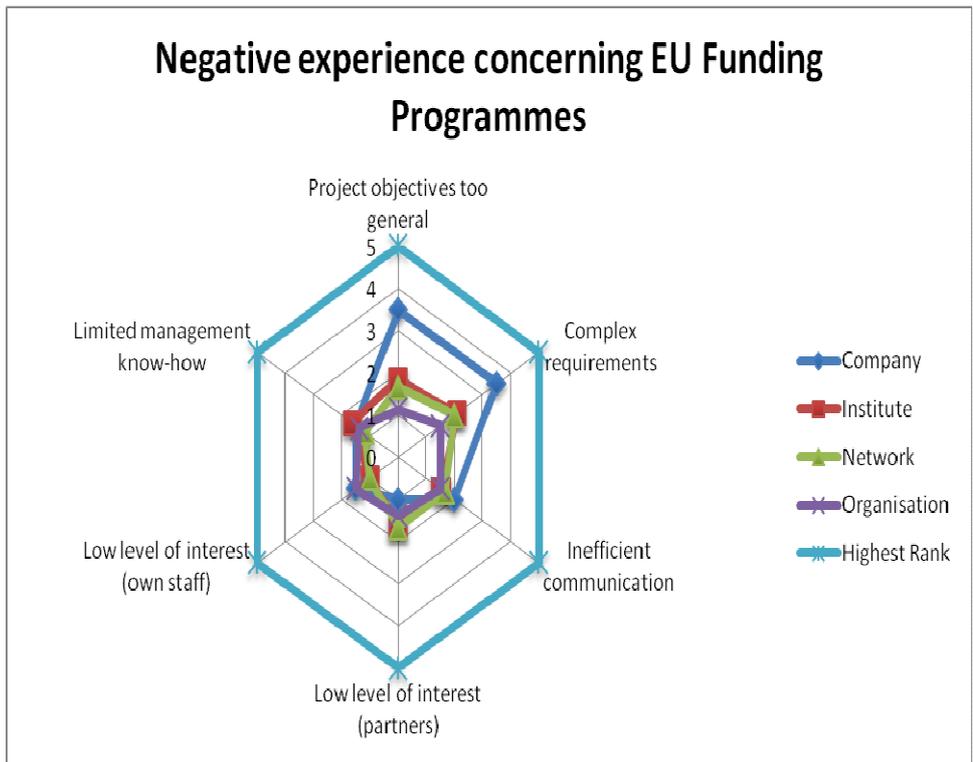


Figure 4: Negative experience concerning EU Funding Programmes

Companies have high positive experience especially on enhancement of in-house know-how. All stakeholders have similar positive experiences concerning an improvement of their business skills by taking part in EU funding programmes and fostering collaboration with other stakeholders. The findings are shown in Fig. 3.

Funding programmes that have too general objectives are determined as negative experiences (Fig. 4). Complexity in participation funding programmes is another issue that companies come across within their submissions.

The following figure shows the findings concerning the benefits complying with regulations:

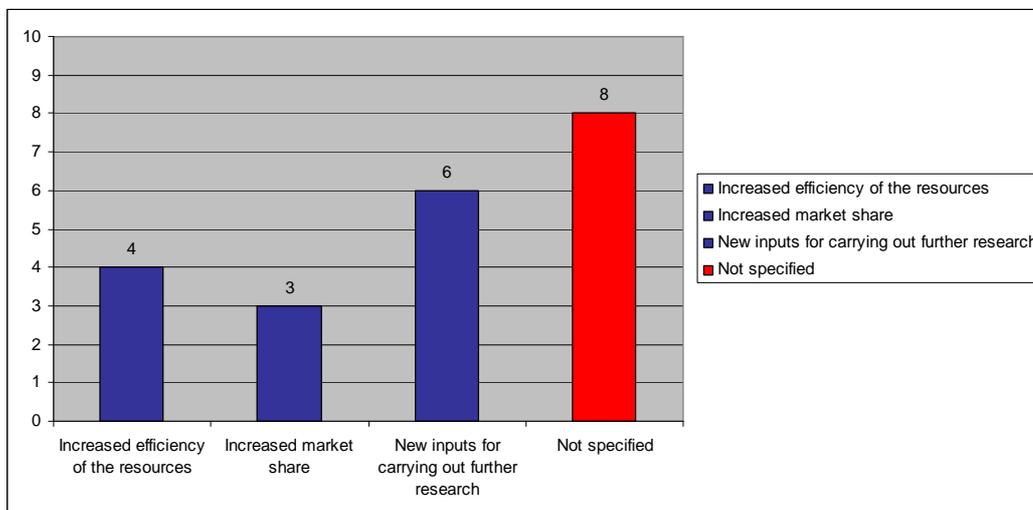


Figure 5: Benefits complying with regulations: Companies

Regulations provide new inputs for carrying out further research. Increased efficiency of the resources is the second impact on different stakeholders. Regulation also support stakeholders to increase market share. The next figure (Fig. 6) shows the difficulties complying with regulations:

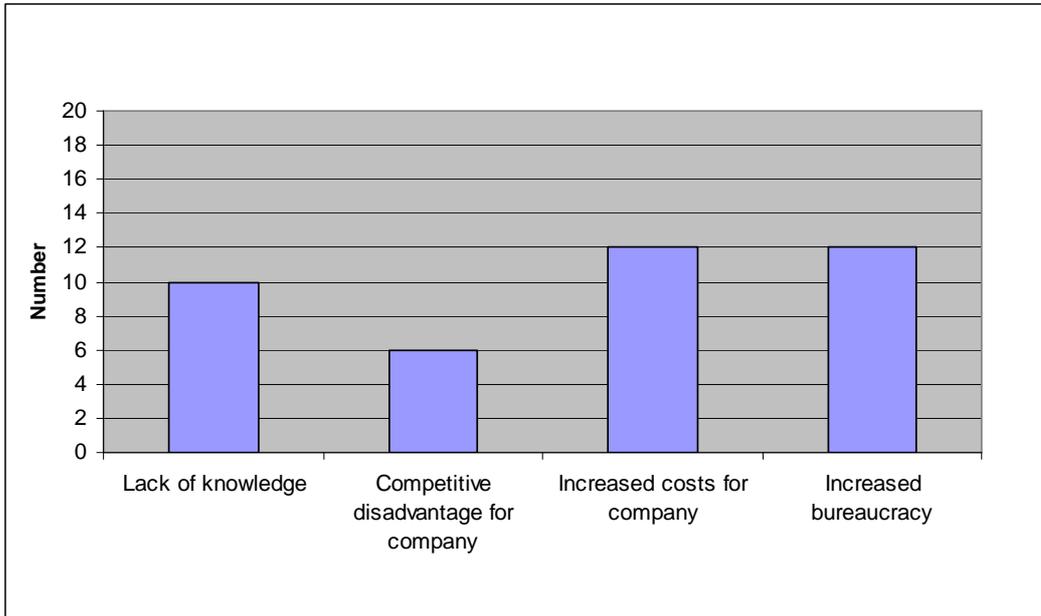


Figure 6: Difficulties complying with regulations: Companies

When we examine companies, it is easily seen that companies have some difficulties complying with regulations. Increased bureaucracy and cost issues are the main issues for companies. In the next figure the request for better implementation of Law/Regulation concerning companies is shown:

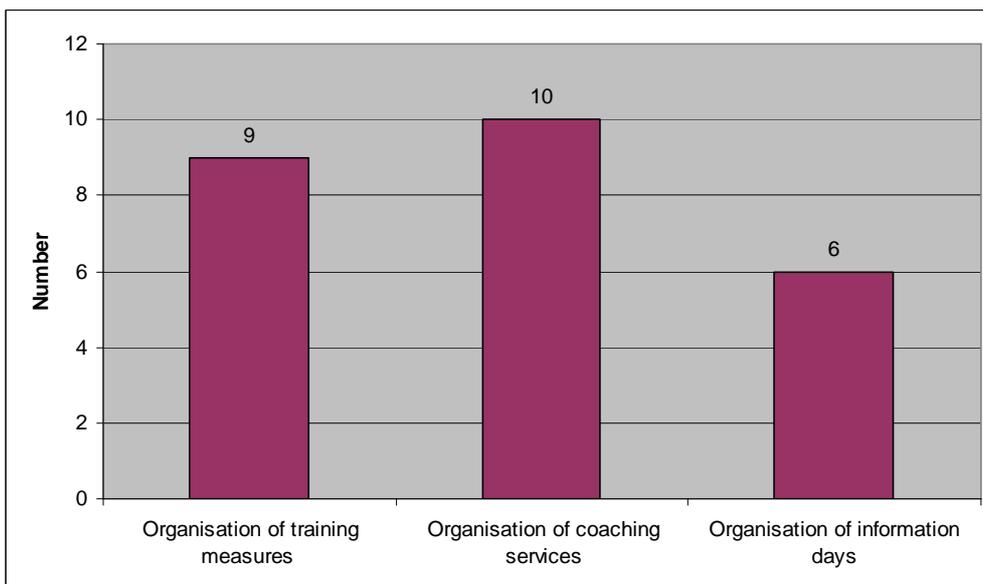


Figure 7: Requests for better implementation of Law/Regulations: Companies

Companies are looking for more coaching services and Training measures in order to facilitate the implementation of Law/Regulations.

The relevant channels for information concerning the different stakeholders are shown below.

Concerning the relevant channels *for companies* are branch associations and sectoral associations. Innovative clusters and national ministries have not a high priority for companies. The results are shown in the following figure:

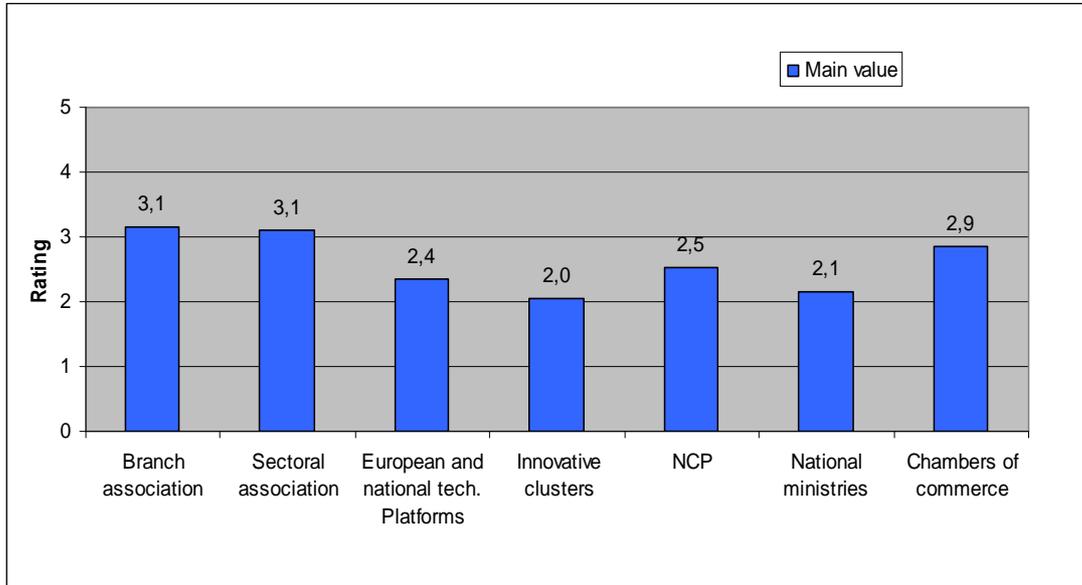


Figure 8: Relevant channel concerning information: Companies

The relevant channels *for Institutes* are innovative clusters and national ministries. National Contact Points (NCP) are interesting for institutes too. The results are shown on the following figure.

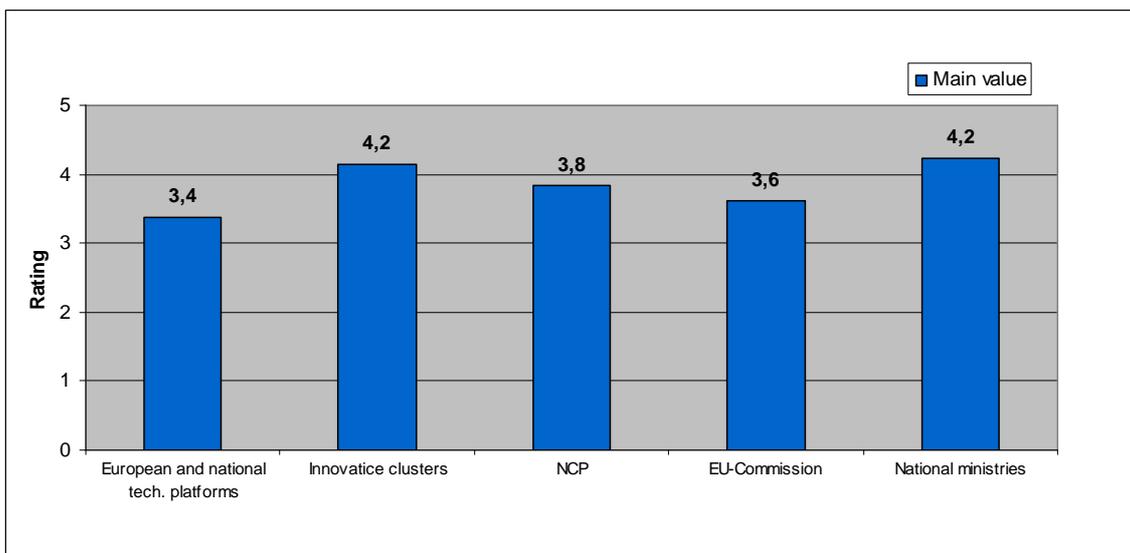


Figure 9: Relevant channel concerning information: Institutes

Innovative clusters and branch associations are the main information channels for *Networks*. Chambers of commerce and technological platforms using for an information channel are not highly classified by the networks.

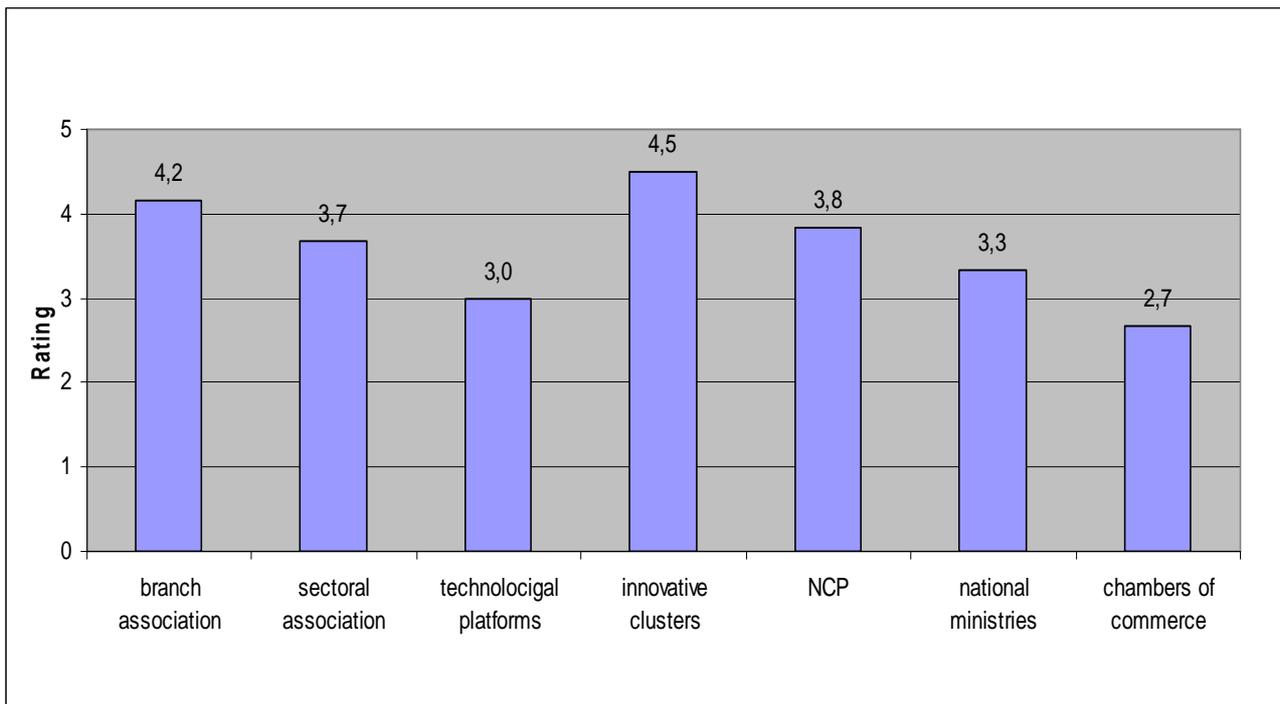


Figure 10: Relevant channel concerning information: Networks

For *Public Bodies*, the relevant information channels are branch associations and National Contact Points (NCP). European and national technological platforms are not very relevant for *Public Bodies*.

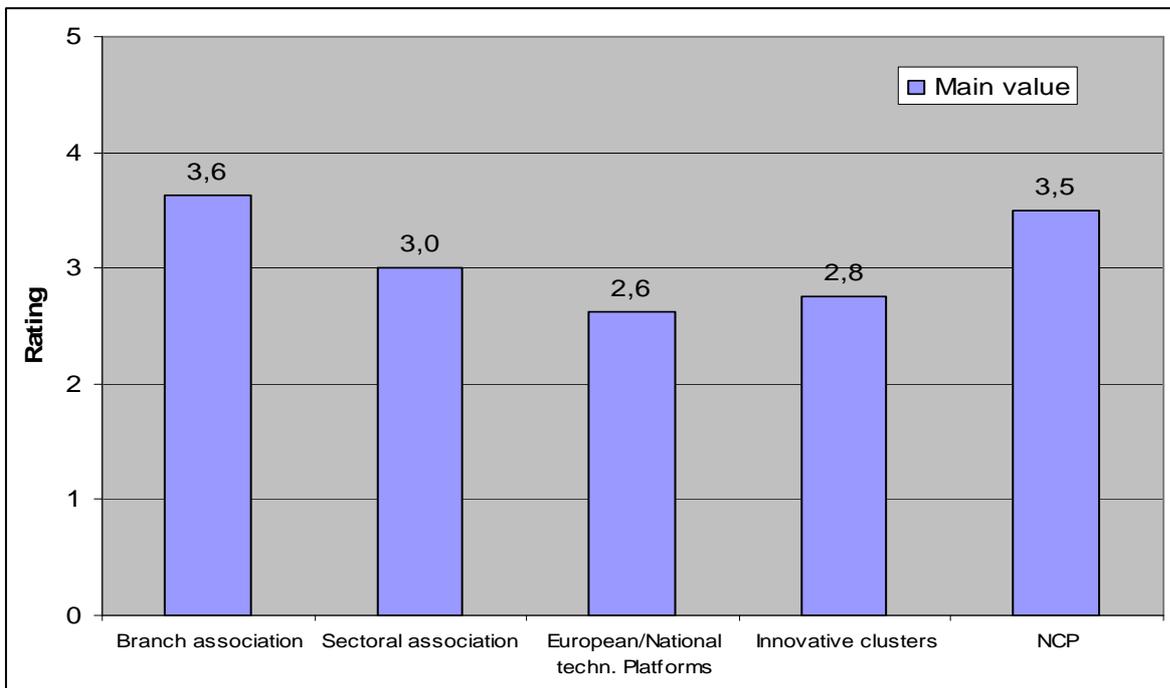


Figure 11: Relevant channel concerning information: Public Bodies

Concerning the impact of policy on daily business and innovation the results are shown in the following figures. For *Companies*, Law / Regulation has the most relevant impact on their daily business and innovation.

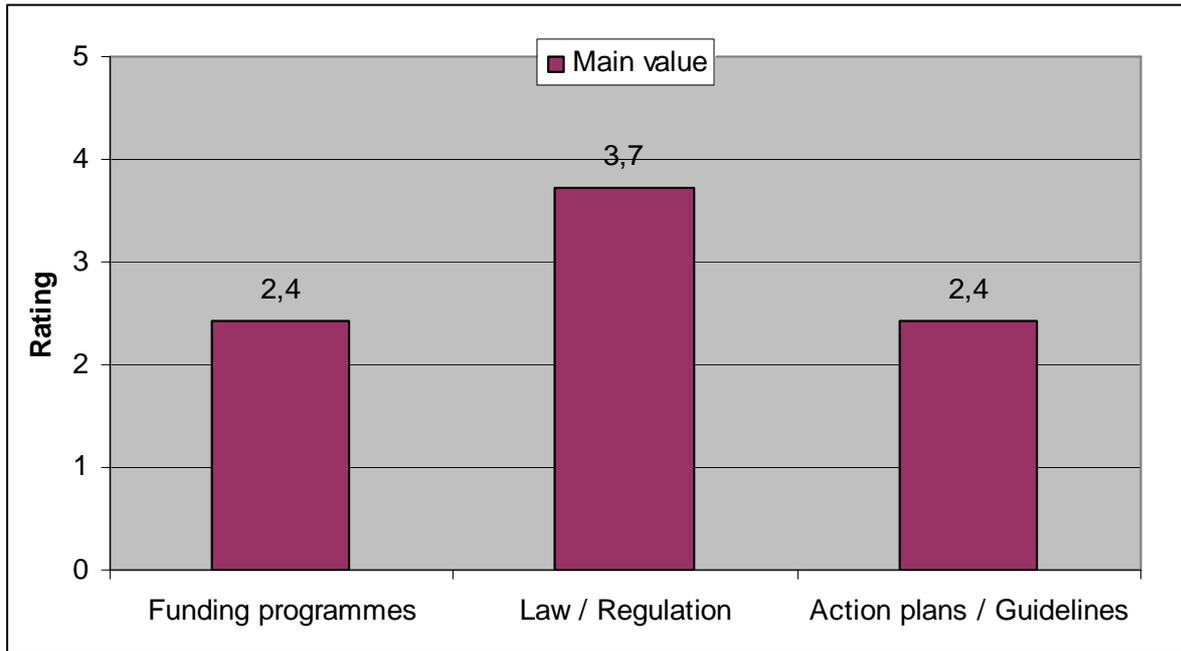


Figure 12: Impact of policy on daily business and innovation: Companies

For *Institutes*, Funding Programmes have the most relevant impact for them. The findings are shown in the following figure:

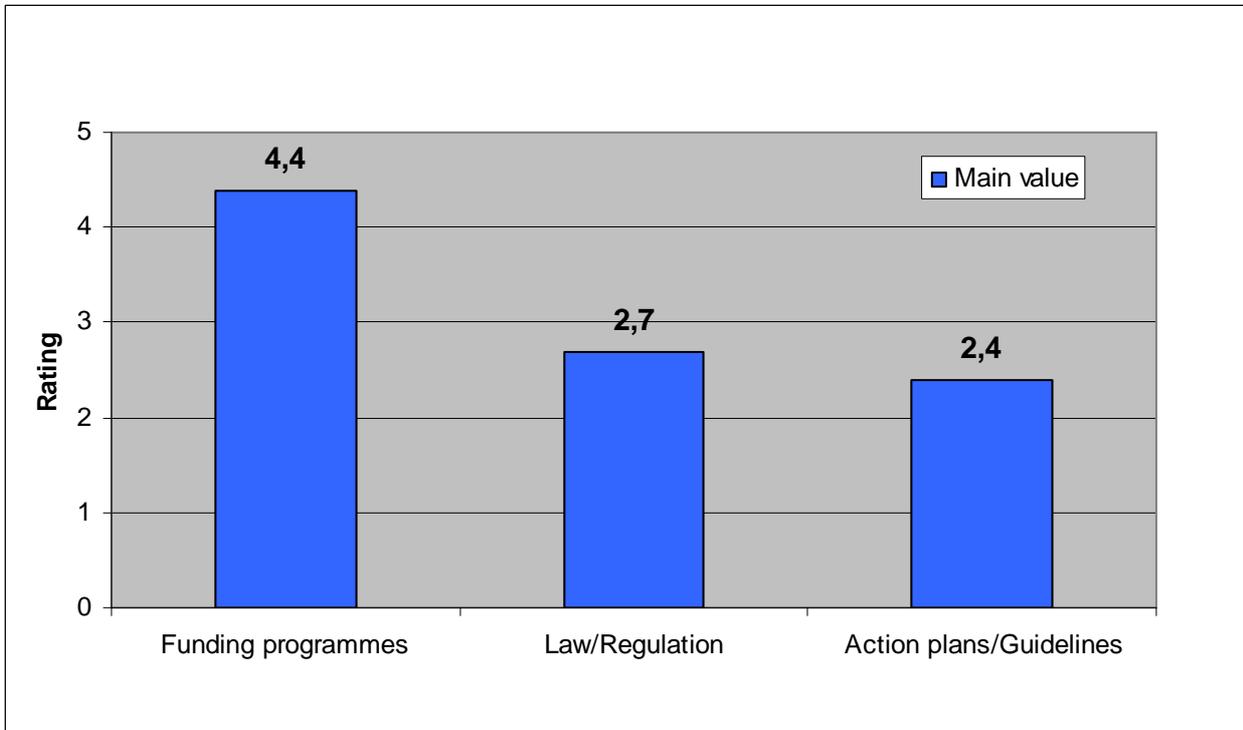


Figure 13: Impact of policy on daily business and innovation: Institutes

Law / regulation has the most relevant impact for *Networks*.

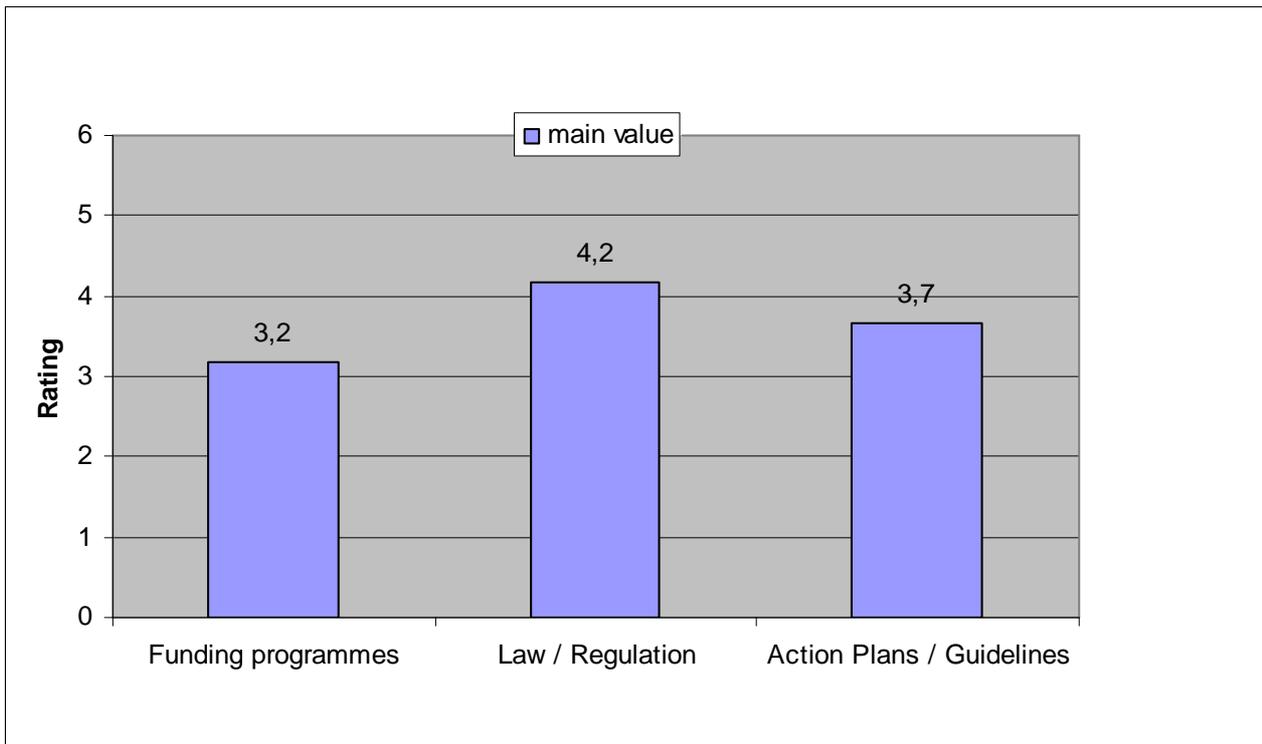


Figure 14: Impact of policy on daily business and innovation: Networks

Conclusion concerning Fig. 12 to Fig. 14:

Law/regulation has the highest impact on the daily business of networks and companies whereas the funding programmes are the one having the highest impact on the daily business of research institutes.

5. Case Studies & Examples of policies with high impact on innovation

Since it is impossible to analyse and evaluate all European or national policies (laws, regulations, programmes etc.) dealing with transport and logistics themes/issues, this report highlighted mainly those to which they have direct influence on SME’s and their innovative initiatives.

The latter is important since the required evaluation and ranking of policies can be done more precisely by focusing on two main drivers of the sector; greening and co-modality.

Examples are given in the following structure which is also used in collecting and ranking stages in data collection approach.

- Funding programmes
- Laws and / or regulations
- Action plans, guidelines and white papers

5.1 Funding programmes

In EU Funding programmes, Eco-innovation (CIP) programme comes forward regarding SME participation which great importance is given in the Posmetrans project.

Five drivers for eco-innovation are regulation, demand from users, capturing new markets, cost reduction, and image have been studied in the IMPRESS project^{1,1}

The survey in IMPRESS project found that there are many more important reasons--besides complying with regulations--for introducing an eco-innovation. These are: improving the firm's image, reducing costs, achieving an accreditation, and, for product and service innovations, securing existing markets and increasing market share. Compliance with environmental regulations was more important for pollution control innovations than for the other types of eco-innovation, especially service, distribution, and product innovations. Process innovations and recycling were often introduced in response to the need to comply with regulations, but many of them were also introduced to obtain cost savings (not environment-related) or to improve the environmental image of the firm.

With small and medium-sized enterprises (SMEs) as its main target, the Competitiveness and Innovation Framework Programme (CIP) supports innovation activities (including eco-innovation), provides better access to finance and delivers business support services in the regions. Eco-innovation initiative provides funding for projects in various sectors that mitigate environmental impacts or promote a more efficient use of resources.

A national funding programme from UK is prominent regarding SME participation. SBRI (the Small Business Research Initiative) aims to use government procurement to drive innovation. It provides business opportunities for innovative companies whilst solving the needs of government departments. Competitions for new technologies and ideas are run in specific areas and aim to engage a broad range of companies in short-term development contracts. The SBRI programme is open to all businesses, although it is likely to be particularly beneficial to SMEs.

The figures for Government funded civil R&D contracts awarded to SMEs under SBRI for 2007/08 show that £47.7m were won by SMEs which equates to 11% of the baseline R&D budget.

5.2 Law and / or regulations

As mentioned, greening is one of the most important drivers in the sector. A European legislation and a national legislation from France are highlighted below.

DIRECTIVE 2009/33/EC is on the promotion of clean and energy-efficient road transport vehicles. It aims at a broad market introduction of environmentally-friendly vehicles. It requires that energy and environmental impacts linked to the operation of vehicles over their whole lifetime are taken into account in all purchases of road transport vehicles, as covered by the public procurement Directives and the public service regulation.

The directive and its implementing legislation are beneficial to improving environmental performance of vehicles concerning innovation. The directive was adopted in March 2009 with an aim in order to stimulate market for clean and energy-efficient vehicles and improve contribution of the transport sector to the environment, climate and energy policies of EU. It addresses purchases

¹ IMPRESS Project: IMPRESS stands for the Impact of Clean Production on Employment in Europe:
An Analysis using Surveys and Case Studies. The project was led by ZEW (project leader Klaus Rennings).

of vehicles for public transport services to improve energy efficiency, reducing CO2 emissions, and pollutant emissions.

A web based internet portal (<http://www.cleanvehicle.eu>) has been established by the Commission to activate the implementation of the Clean Vehicle Directive. This portal also notifies on public procurement legislation, specific programmes and incentives for the purchase and operation of clean and energy-efficient vehicles, on EU level and in the different Member States, on national, regional, and local level.

Le Grenelle Environment Legislation (France) ensures consistency over the whole range of transport policies, for both travellers and goods while complying with ecological commitments. This legislation uses Transport White Paper entitled 'Keep Europe moving – Sustainable mobility for our continent', of 22 June 2006 as reference. White paper also supports the idea that the Union will stimulate environmentally-friendly innovation in particular by successive European emission standards (Euro Norms) and by the promotion of clean vehicles on the basis of public procurement.

The "Grenelle Environnement" is a conference bringing together the government, local authorities, trade unions, business and voluntary sectors to draw up a plan of action of concrete measures to tackle the environmental issue.

To realize commitment that are determine in conference a text is released, known as "First Grenelle Act", which sets the general policy and describes the choices made while not specifying their practical implementation or funding.

5.3 Action plans, guidelines, white papers

Intelligent Transport Systems (ITS) Action Plan: It aims at managing traffic in order to increase the safety of travellers and to spare the time they lose in congestion. It also aims at providing travellers with all the benefits of new technologies inside their vehicles or in public transport.

The ITS Action Plan contributed to a more efficient, cleaner and safer transport in Europe, both for passengers and freight. All advantages of ITS, such as lower fuel consumption/costs, reduced congestions, better reliability or improved safety enhance the attractiveness of driving. This might result in higher road transport demand both for passenger and freight.

Greening Transport: New Commission package to drive the market towards sustainability: This strategy ensures that the prices of transport better reflect their real cost to society, therefore environmental scathe and congestion can be reduced step by step.

"This package is about tackling pollution and climate change, and making sure the polluter and not the taxpayer pays for environmental damage. Among the results will be greener transport, fewer emissions, up to 8% less fuel consumption by lorries and fewer hold-ups for all road users." is said by Antonio Tajani, Vice-President of the European Commission responsible for transport.

Most of the national action plans and guidelines take EU white papers as a reference.

White paper (2001) – 'European transport policy for 2010: time to decide /EU and WHITE PAPER Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system have similar approaches in order to increase the impact of innovation in Transport sector.

Another **white paper (2011)** on transport entitled with “**Roadmap to a single European transport area - Towards a competitive and resource-efficient transport system**” is released in 2011. This white paper shows us that transformation of the transport system is inevitable, therefore competitive, sustainable and innovative resource-efficient transport system for the future is planning to establish.

The European Commission adopted a roadmap of 40 concrete initiatives for the next decade to build a competitive transport system that will increase mobility, remove major barriers in key areas and fuel growth and employment. At the same time, the proposals will dramatically reduce Europe's dependence on imported oil and cut carbon emissions in transport by 60% by 2050.

By 2050, key goals will include:

- No more conventionally-fuelled cars in cities.
- 40% use of sustainable low carbon fuels in aviation; at least 40% cut in shipping emissions.
- A 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport.
- All of which will contribute to a 60% cut in transport emissions by the middle of the century.

Both are encouraging sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion. As indicated in both white papers, it is important to achieve a high level reduction in CO2 emissions and comparable reduction in oil.

6. Conclusions from Expert Panel

- The sample size of survey is too small for evaluation. But it each partner has deep knowledge, experiences and accessibility in their country with respect to transport and logistics sector.
- Greening and co-modality are the main drivers in transport sector.
- The main administrative barriers in each country regarding reasons for not taking part in EU Funding Programmes are mostly common.
- All experts emphasized on the importance of necessity that showing these countries regarding the advantages for adoption to EU level.
- Importance of greening technologies need to be supported by necessary funding programmes, law/regulations and action plans.
- SMEs have lack of knowledge regarding how to use the incentive system that concerned about bureaucracy.
- Mainly, there are some reliability problems and lack of precise roadmaps related with reaching information channels regarding EU Funding programmes.
- There are lots of information channels in each country. But experts stressed on the quality of the information which is not under control in most of the cases.

7. Recommendations of Experts

- Precise roadmaps and guidelines need to be published by European Commission for these kinds of programmes, especially directives and regulations.
- Comprehensive policy approaches needs to be added for a successful policy framework.
- For funding programmes, leading the subjects and lack of coordination problems in the projects should be resolved.
- Idea of having a broadcast which companies can share their researches and products is recommended.
- EU and national policies should complement each other in the most effective possible way in order to find out how these measures can influence the market take-up of innovative technologies and processes.

8. Overall Conclusions

8.1 Laws & regulations

Law & regulations have the highest mandatory level in directing and implementing new technologies in the surface transport sector both on EU and national level. In total, 42 collected policies are examined and the result showed that 12% of all law and regulation policies on European level concern all transport modes as rail, road and water.

Both on European and national level policies, it's seen that environmental issues are highlighted and most of the policies include incentives for implementation and sanctions for any disobeying. That circumstances show us that although law & regulations have the highest mandatory level they have some missing side on being consumer oriented.

Regulations have two main effects on different stakeholders. The first is to provide new inputs for carrying out further researches. This effect has influence on especially SMEs and research institutes. Regulations also support stakeholders to increase their market share.

Environmental issues play an important role all over the world. Policy makers get that issue as a prior problem in their policies. As a result, environmental technologies are a particularly significant target for policy makers and transport is one of the major areas. As a common view, greening and co-modality seem as the main drivers and most of the policies consider them in order to reach the environmental goals.

Policy instruments are mostly used as an encouragement indicator for technological change by reducing the uncertainty in investment and the implementation process of new technologies. Both national and European policies include incentives which will encourage especially SMEs to make long-term investments in innovative technologies. Policies need to consider both demand and supply sides in the major market to provide reliable opportunities by focusing on SMEs.

One of the important points for policies is to complement each other in the most effective possible way in order to find out how these measures can influence the market take-up of innovative technologies and processes.

A successful policy framework will trigger the implementation of projects and actions. Over time, the various national policy approaches should complement each other. A supranational policy needs to be supported by national policies. In that stage, it is important to see how well the EU

policy matches up with the existing national policy. The EU has to agree on policies that can be downloaded to the member state level.

An interesting case to highlight as a best practice concerning the adaption to EU laws is from Turkish railways. "General Railway Framework Law" and "TCDD Law" have been drawn up with the purpose of restructuring the railway sector in Turkey in order to comply with the railway legislation of the European Union (EU). These draft laws are prepared envisage the revitalization of the railway transportation sector and the increase of the share of railways in transportation by encouraging the competitive environment. It is aimed at separating the infrastructure and operating services and hence transforming TCDD which is a loss-making institution into a profitable one in the course of time within the draft law. In the draft law, the existing transportation monopoly in the railway sector is being removed by opening the utilization of railway infrastructure for all state and private companies. It provided the opportunity that the private undertakings can also perform the railway transportation within the framework of competitive principals with the liberalization of the railway transportation sector. Also, a strong, consistent and transparent structure for regulation and supervision is being established in the sector.

In order to make technological or organizational innovations really effective, it is essential to have the previous support of policy measures aimed at making them more acceptable and therefore adopted, considering their impact on the travel demand.

Thus, on this purpose the Swedish example of the Stockholm congestion charging scheme can be mentioned as a best practice. It is a congestion pricing system implemented as a tax levied on most vehicles entering and exiting central Stockholm (Sweden). The congestion tax was implemented on a permanent basis on August 1, 2007, after a seven-month trial period between January 3, 2006 and July 31, 2006.

It is a best practice not only because of the benefits that it brought to the road transport system (decreased congestion and emission of pollutants, better travel times at peak hours...) but moreover for its "multimodal vision" (contemporarily having implemented a better public transport service offer) and its capacity to manage the consensus and the citizen participation to the process: as a consequence, a slight majority of Stockholm inhabitants was in favour of keeping the tax in the 2006 referendum, quite a remarkable result given the kind of question to which they were asked to agree.

8.2 Action plans & guidelines

A successful policy framework can be implemented with the availability of complementary structures. 44% of the total of the 36 EU action plans which were collected by POSMETTRANS, concern all transport modes. Action plans and guidelines are one of the most important supportive mechanisms for law and regulations. EU action plans give necessary importance for the implementation process in order to enable an ease of enforcement structure.

The main relevant key factor to reach success in the innovation processes is to prepare action plans & guidelines which are consumer oriented. In POSMETTRANS examinations, it's seen that EU and National action plans are seemingly easy applicable but they are not very consumer oriented. User demand is an important point which policy makers need to take into consideration. In order to establish the determined goals, bringing together public authorities, political and relevant sector key players is strongly recommended very important for an effective policy making process.

General tendency in EU is also important for all countries. It can be said that "Environmental Commitment" and "Consumer oriented" factors are highly focused in all countries. Greening is supported by action plans and it has priority in all countries. Action plans show us that, EU members and other partner countries are aware of consumer orientation especially on

environmental commitment and they prepare their own strategies by considering that requirements.

The key factor that is often overlooked in the transport sector is the need to study how innovation will impact the travel demand, in terms of user reactions. Action plans and guidelines need to be considered the importance of envisaging accompanying measures to make technological or organizational innovations more acceptable and therefore adopted which will be resulted with “consumer oriented” policies. That is why policy makers need to focus on the users demand analysis, aiming at making public actors aware of it for an effective policy making process. It is essential to have the previous support of policy measures in order to be really effective by making them more acceptable and therefore adopted, considering their impact on the user demand.

Of course, the main approach needs to be supported by comprehensive policies and other elements such as additional funding for research and development.

An interesting case to highlight concerning the prior topic of co-modality is the work to improve urban mobility of people in Turin (Italy) performed by the consortium 5T.

5T (Telematic Technologies for Transport and Traffic in Turin) is a consortium aimed at implementing telematic technologies to help achieving a better mobility in Turin. The 5T project was launched as a pilot project in 1992 in order to help citizens to move round the city more quickly, encourage use of public transport and reduce pollution. The exceptional results of this pilot project, verified by International Organizations, have demonstrated the effective contribution of integrated telematic systems to improve mobility.

It can be seen as a best practice since, beyond standard sectoral implementations of ICT technologies in specific ambits (traffic lights management, priority to public transport, VMS, pollution monitoring...) that are nowadays diffused in most European cities, it has an integrated and holistic vision that allows for the coordination of a wide range of telematic devices to work together for a common goal.

Furthermore, it is a good example of practical cooperation among research actors and public actors, which will be directly involved in the elaboration of public policies concerning urban transport and mobility management.

Another example from Germany shows that institutes are aware of the importance of action plans and are determining their steps by considering them. In order to bridge the digital divide within the passenger transport and logistics sector, one of the striking challenges they clearly noticed in their long-term work with respective staff/employees and job searchers for this particular area, they have invested in further development of existing mature mobile learning technology that specifically delivers key skills in lifelong learning. Financial investment was partly covered by EU-funds (programme eTEN). Networking proved to be most crucial for the actual implementation of project ideas; this included stakeholders such as public authorities, funding organizations, private companies and already existing customers.

8.3 Funding programmes

Funding programmes are the main supportive mechanism. Lastly, 92% of all EU Funding programmes are collected by POSMETRANS partners concern all transport modes, this corresponds to 11 of the 12 gathered policies.

Funding programmes are aimed at the opportunity to acquire important know-how offering to the companies involved which will result very useful in case of future calls for tenders or public funding measures.

EU and national funding programmes are structured by action plans and supported by relevant policies. As that complementary structure gets stronger the implementation process gets easier and the effectiveness of funding programmes is increased. As mentioned before, the EU has a great focus on Environmental issues. That's why EU Funding Programmes are highly concerned with environmental issues and the level of support to R&D activities.

EU Funding programmes are important sources and obstacles on their participation have to be removed. Administrative barriers and a lack of information about R&D programmes are the main reasons for not taking part in EU funding programmes. An increase of technology and know-how transfer from research institutes would be highly beneficial for SMEs. Networks and public bodies have to support SMEs to enhance their limited skills on innovation and international collaboration capability in order to increase SME's participation.

All stakeholders come across with some difficulties especially on needed complex requirements in participation procedures. Another difficulty is to find a place in projects considering their specialties. Companies mostly focus on specific research and application areas although EU funding programmes cover more general objectives. Insufficient communication is another problem which all stakeholders need to consider.

For funding programmes, leading the subjects and lack of coordination problems in the projects should be resolved.

TCDD from Turkey is aware of the benefits that can be gained from being a part of EU projects. They focus on cooperation with the European countries in R&D Works. TCDD develops the joint training programs and projects in cooperation with European countries. Within the framework of harmonization program with EU, some of the projects involved in the 7th Framework Program that TCDD participated are as follows:

CREAM (6.FP): It is aimed at remedying the deficiencies on the selected international railway corridors and at removing the obstacles that prevent the development of international freight traffic. The Project, for which a budget of 1 Million Euro was allocated in order to install x-ray equipment to the border crossings and to mount GPS devices to wagons, has been completed. **SUPERGREEN**: EU project entitled "Supporting EU's Freight Transport Logistics Action Plan on Green Corridors Issues" aimed at making green corridors to be determined more environmentally friendly and economic and at developing the technologies and supporting the works on drawing up the legal regulations. The negotiations on the budget of this Project accepted by EU Commission have been completed. The Project is going on. **PROTECTRAIL**: Is an ongoing Project aimed at using new Technologies in order to increase the security of railway infrastructure and trains. **SECURED**: The negotiations on the budget of the Project aimed at improving security systems in especially urban rail transportation are ongoing. **MAINLINE**: It is planned to start the Project aiming at reducing infrastructure maintenance costs in 2012. **RESTRAIL**: Is a Project with the goal of increasing safety measures and developing new Technologies in railways. It is planned to start in 2012.

Similar case studies from Italy about intermodal transportation are also interesting. For the implementation of the intermodal terminal, it is essential to get the approval and the financial support of local authorities, which is often guaranteed as such projects are considered to have a public interest. Furthermore, it is an opportunity of being a part of important networks at national and international networks.

9. Conclusions focused on SMEs

9.1 Laws & regulations

In recent years, “innovation” became an important concept in all Europe. SMEs are a key player in many development studies in which innovation concept and indicators of innovation are defined as regards to economic, industrial characteristics and technological level for different countries.

The major driver for an economic development of countries is sustainable and effective innovation integration in SMEs. Cooperation and converting knowledge into product with the help of an innovation culture is essential for SMEs. That’s why, SME participation in EU and national level is supported as a priority.

On the other hand, when we examine companies, it is obvious that companies have some difficulties in complying with regulations. Increased bureaucracy and cost issues have high impact on companies. Companies are looking for more coaching services in order to reach a better implementation of Law/Regulations.

Companies are looking for more coaching services and training measures in order to facilitate the implementation of Law/Regulations.

As mentioned, the report focuses on popular drivers of change in the transportation sector which are greening Technologies and co-modality. Policy makers focus on those popular sectors on the first hand. Apparently those sectors will also be prior discussion topics in the following years.

As expected, mandatory level in all countries has a positive tendency so it enables us to say that law/regulations have the most relevant impact for companies on their daily business and innovation. In that perspective, awareness level on policies gets importance considering SMEs. Besides that, SMEs have a lack of knowledge regarding how to apply to policies that are concerned about bureaucracy. Administrative barriers, lack of information about policies and finding right information channels are the major problems for SMEs.

Especially in greening related laws/regulations and action plans, environmental commitment, SME participation and consumer orientation have similar positive tendency. EU shows great importance on environmental issues, as reflected in the attribution of funding, and tries to implement that commitment with a high mandatory level.

9.2 Action plans & guidelines

Policy makers aim to write effective action plans to accelerate development of SMEs especially focusing on innovation. Action plans are central to continuous improvement efforts as they provide a common vision for SMEs for their technology investment and R&D projects.

Action plans are mostly focused on “Environmental issues” in order to provide a sustainable improvement for a livable world. Most important topics for action plans are determined as “Greening” and “Co-modality” which are relevant for the transport sector. However, policy makers need to give great importance on compiling an action plan in order to prevent any obliqueness in their vision.

SMEs are well focused on action plans to boost their innovation capacity and introduce opportunities about environmental solutions. New market opportunities are presented in action plans especially in the fields of greening and co-modality which have a great connection with energy and environment issues. Europe is addressing key energy challenges in the EU and

helping to change systems and habits by providing foresight for SMEs in action plans and guidelines.

Policy makers need to aim at making all action plans and guidelines as SME friendly as possible.

9.3 Funding Programmes

EU funding programmes provide benefits to foster companies to increase their limited skills. The answers from SMEs and large companies were analyzed together but the fact that 75% of the companies interviewed were SMEs, can be used to make a general approach. The enhancement of in-house know-how is the prior benefit for SMEs which will provide new approaches for the R&D activities and increase their innovation capability. International collaboration and new contacts will integrate an open innovation model which will enable SMEs to follow new technologies and trends to companies.

Funding programmes are important sources and obstacles on their participation have to be removed. Administrative barriers and a lack of information about R&D programmes are the main reasons for not taking part in EU funding programmes. An increase of technology and know-how transfer from research institutes would be highly beneficial for SMEs. Networks and public bodies have to support SMEs to enhance their limited skills on open innovation and international collaboration capability in order to increase SMEs' participation.

Increasing knowledge is crucial for the EU's initiative to becoming the world's most dynamic, advanced, competitive, knowledge-based economy. In order to increase knowledge the EU works to foster SME in order to enhance their innovative capacity.

In co-modality, SME participation in EU funding programmes has the highest impact in all countries. Turkey supports "SME participation" much more than the EU. Co-modality has an ability to reduce carbon emission. In co-modality, SME participation in EU funding programmes has the highest impact in all countries. SME participation is supported to increase environmental commitment by increasing the level of support to R&D activities.

EU Funding Programmes are highly concerned with environmental issues and level of support to R&D activities.

10. Summary

The POSMETTRANS project aims to analyze policy measures in the surface transport sector both on EU and national level, in order to find out how these measures can influence the market take-up of innovative technologies and processes.

The report focused on the identified approaches from law & regulations, action plans and guidelines and funding programmes on EU and National level. A specialized focused was shown to SMEs in order to indicate their state of the art concerning innovation and their ability to enhance their capability by using mentioned indicators that popular drivers of change in transportation sector are greening technologies and co-modality.

Successful policy frameworks that are implemented in EU and national level are examined and extracted as best practices. Survey results, examination of policies that are performed by each partner and best practices show us;

Adaptation to EU policies is also important for Non-EU Member State countries and EU provide a reference for their national policies which result as low deviation between EU and Non –EU countries' national policies. National policies have critical importance for adaptation to EU policy frameworks. As a result of this, SMEs can have big opportunity to enhance their capability by implementing these policies.

It is very obvious that Networks are essential to increase the knowledge level about funding programmes in order to inform companies and other stakeholders. Therefore, networks act as an information source on funding programmes and help companies and other institutions to find a partner for their R&D projects. Networks provide an essential support to the phase of the elaboration and development of calls and public funding schemes, by inquiring needs and requirements of both parties, and taking over an important mediation among them.

Information channels are the main sources for technology and know-how transfer for all stakeholders. Regarding all stakeholders, Law/regulation has the highest impact on the daily business of networks and companies whereas the funding programmes are the ones having the highest impact on the daily business of research institutes.

Administrative barriers and a lack of information about R&D programmes are the main reasons for not taking part in EU funding programmes for all stakeholders. Due to this reason,

- *Precise roadmaps and guidelines need to be published by the European Commission for these kinds of programmes, especially directives and regulations.*
- *A comprehensive policy approaches needs to be added for a successful policy framework.*

As a general conclusion for both drivers (greening technologies and co-modality), all policies (Funding programmes, Law/regulation and Action plans) will be continued to implement in EU and national levels in order to increase environmental commitment and economic growth.

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