



NEA Transportonderzoek en -opleiding  
NEA Transport research and training



Technical Proposal

## **REGULATION ON THE TRANSPORT OF DANGEROUS GOODS ALONG THE TRACECA CORRIDOR**

EUROPEAID/120569/C/SV/MULTI

Submitted to: European Commission

Submitted by: NEA Transport research and training, the Netherlands  
HPTI Hamburg Port Training Institute, Germany  
UMCO Umwelt Consult, Germany  
Hoyer Gaslog, Germany

The Netherlands, January 2006



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## CONTENTS

	<u>page</u>
<b>1 INTRODUCTION .....</b>	<b>5</b>
<b>2 RATIONALE .....</b>	<b>7</b>
2.1 Comments on the Terms of Reference .....	7
2.2 Opinion on the key issues .....	12
2.3 Explanation of the risks and assumptions .....	13
<b>3 STRATEGY .....</b>	<b>17</b>
3.1 Project Objectives .....	17
3.2 Outline of the approach .....	17
3.3 List of proposed activities .....	21
3.3.1 Inception Phase .....	21
3.3.2 Result 1: Economic analysis of all possible schemes .....	22
3.3.3 Result 2: Integrated technical scheme for LPG Transportation .....	23
3.3.4 Result 3: Study of the regulatory authorities .....	25
3.3.5 Finalisation phase .....	26
3.3.6 Study Tours .....	26
3.4 Related inputs and outputs .....	27
3.5 Division of tasks and responsibilities of the consortium .....	27
3.6 Description of each Partner .....	30
3.7 Key Experts .....	36
3.8 Other experts .....	38
3.9 Support facilities (back-stopping) .....	43
<b>4 TIMETABLE OF ACTIVITIES .....</b>	<b>45</b>
4.1 Timing, sequence and duration .....	45
4.2 Reporting .....	46
4.3 Timetable of activities .....	46
4.4 Expected number of working days for each category of expert .....	48
4.5 Ratio of working time .....	50
4.6 Draft schedule of missions to the region .....	50
<b>5 LOGFRAME .....</b>	<b>53</b>



## 1 INTRODUCTION

### Background

The project *Regulation on the Transport of Dangerous Goods along the TRACECA Corridor* fits in very well with the long TRACECA tradition that now stretches well over ten years. Since 1993 when the TRACECA initiative was established, a range of projects has been initiated; some of these projects related to the current project, e.g. TRACECA Transport Legal and Regulatory Framework (1997), TRACECA Common Legal Basis for Transit Transportation (2004) and currently TRACECA Freight Forwarding Training Courses.

The *Regulation on the Transport of Dangerous Goods along the TRACECA Corridor* project aims to the overall TRACECA objectives of higher security and improved access to international markets and increased competitiveness and improved transport performance on the TRACECA corridor through the introduction of an alternative, economic and modern transport scheme of Liquid Petroleum Gas (LPG) in the TRACECA region. By doing so, the project directly adds to the aims of Multi-Lateral Agreement (MLA), as signed in 1998.

*Figure 1.1 Rail freight transport of dangerous goods in The Netherlands*



The consortium, consisting of NEA Transport Research and Training (lead); Hamburg Port Training Institute, UMCO and Hoyer Gaslog, has been heavily involved in the TRACECA region for a long period, both in the field of transport regulations, trade and transport facilitation and customs issues, and in organising training programmes in the region. From this experience,



the consortium has a good understanding of the contents of the project, the required methodology and the organisation needed to fulfil all requirements.

Furthermore, the *TRACECA Capacity Development of Senior Transport Sector Official* project, which has been finalised in 2005, and the ongoing *TRACECA project Freight Forwarders Training Courses* provides NEA, as leading organisation, with an excellent local network. This network consists of public sector representatives, with whom a band of trust has been established, and private sector representatives, who can be mobilised effectively and efficiently, enabling the consortium to make a quick start.

### **Contents of this section on Organisation and Methodology**

The consortium proposes an approach with clearly defined phases and tasks, leading to measurable activities, project results and specific project objectives, under certain assumptions, as defined in the project's Logical Framework matrix (see Chapter 5). The rationale of the approach is described in Chapter 2, which consists of the comments on the Terms of Reference, the opinion of the consortium on the key issues and an explanation of the risks and assumptions. The strategy to achieve the project objectives is described in Chapter 3. In Chapter 4 the timetable of activities can be found while the Logical Framework is presented in Chapter 5.



## 2 RATIONALE

The rationale of the project is described in this chapter, detailing the comments on the ToR, the opinion of the consortium on the key issues, and an explanation of the risks and assumptions.

### 2.1 Comments on the Terms of Reference

The Terms of Reference are precise and clear regarding the specific objectives to be achieved by the project: delivering a feasibility study which includes the technical, economical, financial, environmental, legal and institutional appraisal for the transport of LPG through the TRACECA corridor.

Based on its broad experience in similar assignments the consortium partners would like to make the following comments, which are presented in detail below:

- ❖ The importance of this project
- ❖ The environmental benefits of transport of LPG instead of flaring
- ❖ Strong local co-ordination and network will make or break the project
- ❖ Transport of dangerous goods in the TRACECA countries would benefit from harmonisation and upgrading the legal and institutional framework
- ❖ The crucial role of consultation with the target groups and project partners
- ❖ The added value of control and enforcement in transport of dangerous goods to enhance the transport network in the TRACECA region

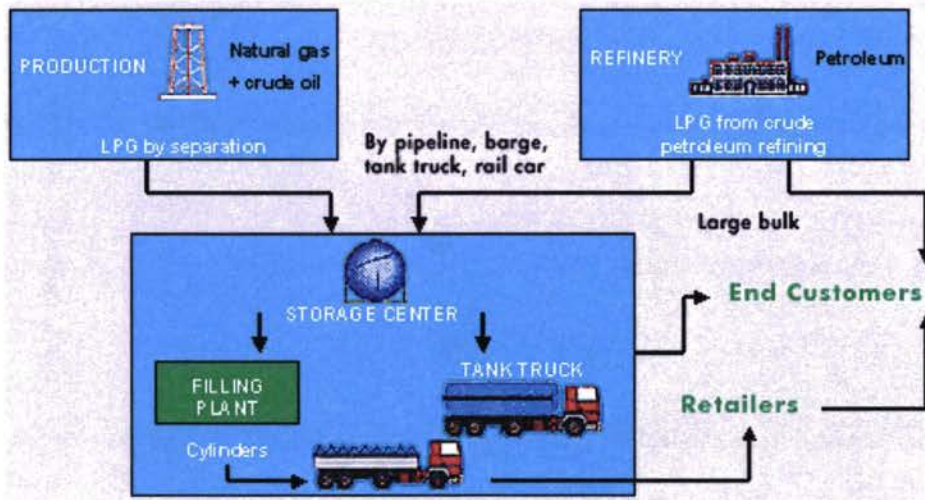
#### **The importance of this project**

Production of energy is a fast growing business in TRACECA countries as Kazakhstan and Turkmenistan. In the process of production of natural gas and crude oil, LPG is created as a side-product. Until now LPG is flared as there is no economic benefit seen using LPG otherwise. Flaring is seen as well as harmful to the environment, while using LPG for energy consumption is regarded as environmental friendly. In some countries in the world successful projects have been launched to use LPG for energy of the local population living nearby the production sites. As most energy production takes place in thinly populated areas in the TRACECA countries, this would be difficult to achieve here. Another option forms the basis of this project: the transport of LPG towards consumer countries like Turkey, Greece and other European countries. The main aim of this project is to investigate the economic, legal, technical, environmental and institutional pros and cons of transport of LPG in the TRACECA corridor. In doing so, the project may benefit as well the INOGATE-Programme. The INOGATE Programme stands for Interstate Oil and Gas Transport to Europe. INOGATE is an international co-operation programme, funded by TACIS and aiming at promoting the regional integration of



the pipeline systems and facilitating the transport of oil and gas both within the greater region of the Newly Independent States (including TRACECA countries) and towards the export markets of Europe, while at the same time acting as a catalyst for attracting private investors and international financial institutions to these pipeline projects.

**Figure 2.1** LPG logistics



### The environmental benefits of transport of LPG instead of flaring

Gas flaring is associated with the release of a large number of pollutants. Improper combustion, as indicated by smoke from the flare stack, contributes to increasing the hazardous chemicals released into the environment including volatile organic compounds. The substances include:

- ❖ More than 250 identified toxins, including carcinogens such as benzopyrene, benzene, carbon disulphide (CS<sub>2</sub>), carbonyl sulphide (COS), and toluene
- ❖ Metals such as mercury, arsenic, and chromium
- ❖ Nitrogen oxides
- ❖ Sour gas with H<sub>2</sub>S and SO<sub>2</sub>

Most gas flaring reduction is in essence a question of changing the purpose of the combustion at the oil field from gas elimination (flaring) to gas use, e.g. power production, or of moving the combustion away from the field—normally to a load centre where it will be combusted for industrial or power production purposes.

Besides constituting a waste of economically valuable resources, flaring and venting are also significant contributors to global warming. Reduced flaring implies reduced carbon dioxide (CO<sub>2</sub>) emissions, the amount of which depends on whether the gas is reinjected or replaces other fossil fuels such as diesel or coal. This reduction in CO<sub>2</sub> not only benefits the country that achieves the emission reductions, but constitutes a contribution to global efforts to limit CO<sub>2</sub> emissions with the objective of preventing climate change. CO<sub>2</sub> emission reductions constitute a service to the global community by reducing the risk of damage to human health, water systems, agriculture, and fishing resulting from climate change. At the same time, Emissions Trading,



Joint Implementation, and the Clean Development Mechanism under the Kyoto Protocol represent opportunities for the countries which restrict gas flaring to capture part of the global public benefits of emission reductions. And finally it is very important reduce the dangers of transport of dangerous goods to the environment by doing according to internationally approved regulations and standards, as for instance demonstrated in Figure .2.2.

**Figure 2.2** Road transport of dangerous goods in The European Union



**Strong local co-ordination and network will make or break the project**

Five TRACECA member countries will participate in the project, and in order to achieve the indicated results it is of the greatest importance to set up a project structure with a strong local presence and good co-ordination with all parties involved. As NEA has recently carried out the TRACECA project Capacity Development for Government Officials and presently leads the TRACECA project Freight Forwarding Training Courses, this project can benefit from the project network already in place with offices in Baku and Tashkent. Besides NEA is running an office for another project in an important transit transport country as Ukraine, while having as well an office in the important LPG consuming country Turkey. As Turkey is one of the main LPG consuming countries, it is important to know whether transportation of LPG is justifiable from a Turkish point of view.

**Transport of dangerous goods in the TRACECA countries would benefit from harmonisation and upgrading the legal and institutional framework**

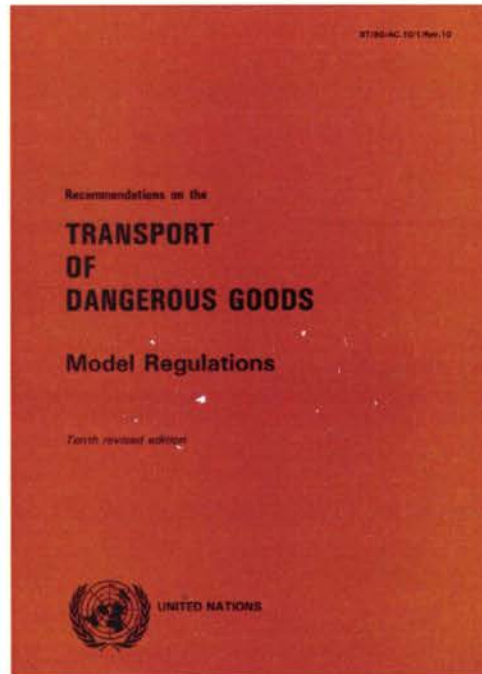
Controls on the transport of dangerous goods date back a very long time. In the 1950's the United Nations (UN) established a Committee of Experts (COE) on the Safe Transport of Dangerous Goods (STDG). This committee seeks to devise standard rules for STDG for all modes of transport worldwide. COE now publishes its recommendations in the Orange book, which is revised every two years, see Figure 2.3. The orange book is used as basis for modal rules, e.g. road, rail, sea and air. On the other side all TRACECA countries have their own legislation on transport of dangerous goods, which have sometimes left unchanged for a long time, or is sometimes difficult to change while all details are described in primary legislation





which needs approval for amendments from the parliaments. As the subject of dangerous goods is very detailed of nature, there are sometimes many detailed changes necessary, resulting in unnecessary lengthy procedures. The ADR Agreement (UN ECE) is updated as well every two years.

**Figure 2.3** *Model regulations for transport of dangerous goods*



### **The crucial role of consultation with the target groups and project partners**

The ToR clearly defines a list of target groups and project partners. The consortium foresees a crucial role for a constructive consultation process in the project together with these stakeholders. Therefore, a series of consultation events are proposed, including multi-country seminars, in-country workshops, study tours and dedicated field visits. Besides the four mentioned countries in the ToR, the consortium proposes to include Turkmenistan through in-country workshop or dedicated field visits.

### **The added value of control and enforcement in transport of dangerous goods to enhance the transport network in the TRACECA region**

Dangerous goods that present significant risks to the safety of people, property or the environment must be properly controlled and be able to withstand the normal conditions experienced during transport. Dangerous Goods regulations seek to ensure these risks are reduced to an acceptable level. The rules place specific duties on each part of the transport chain:

- ❖ Manufacturer - testing and listing physical and chemical properties
- ❖ Consignor - classify/package/mark/label/documentation of goods



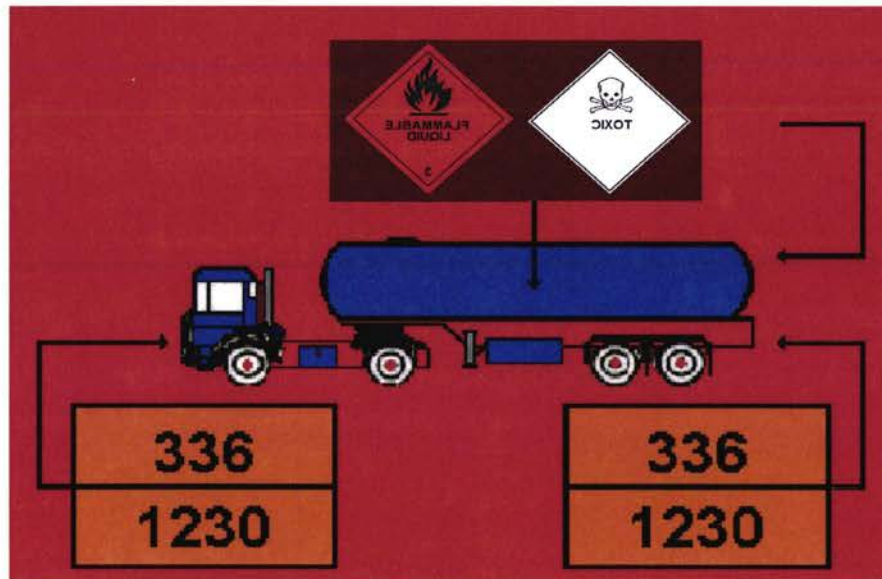
- ❖ Operator - segregation
- ❖ Driver – loading/unloading/vehicle marking/equipment/emergency operations
- ❖ Consignee - no specific duties unless specifically authorised to act on behalf of consignor

The consortium proposes to include specific assistance in this project from the IVW in the Netherlands. The IVW, Freight Transport Inspectorate Netherlands, is the leading supervision and enforcement body on transport of dangerous goods in the Netherlands.



Source checks of dangerous goods have primarily a preventive character. In other words, it is always better to prevent non-compliance before the actual transport starts. There are different stages distinguished in this method: a first announced survey by means of a questionnaire, followed when necessary by a second survey and finally when necessary a penal investigation (repression). In addition, thematic checks: with a dedicated focus on the nature of the goods transported are carried out, e.g. for dangerous goods, waste, live animals, agricultural or farming products. For the transport of dangerous goods it is important that vehicle marking is correctly executed. Also the type of vehicle could be an indicator for a specific roadside check, like tank vehicles, special vehicles for explosives, containers, etc.

**Figure 2.4** Vehicle marking according to ADR Agreement





## 2.2 Opinion on the key issues

The overall project objective is the introduction of an alternative, economic and modern transport scheme for LPG in the TRACECA region. This objective is to be achieved by delivering a feasibility study which includes a technical, economical, environmental and legal/institutional appraisal of LPG transport through the TRACECA corridor.

### Technical possibilities for transport of LPG

While most transport of energy in the region concerns oil and gas, the logistics of LPG requires a different infrastructure for storage, transshipment and transport. A critical point in the transport of LPG instead of its flaring is the available transport capacity. The organisation of transport of LPG is in need of a large quantity of railroad wagons that are specialised for transport of gas.

The consortium will carefully look into all technical aspects for transport of LPG, as outlined in Chapter 3.

### Economical justification for transport of LPG instead of flaring

During 2005 the rise of oil prices have seen in Europe a strong growing interest in the use of LPG as an alternative source of fuel for automobiles (see Figure 2.5). Although the rise of popularity may have been halted temporarily by the decrease of oil prices at the end of 2005, it is expected that in the long run the interest for LPG will continue to grow and prices for LPG will subsequently rise, making transport of LPG more interesting from an economic point of view. Whether this should be the case for LPG from Kazakhstan and Turkmenistan, with its relative long distances to consumer countries, will be thoroughly investigated by the consortium

*Figure 2.5* LPG used as alternative source of fuel for automobiles





### **The speed of legal and institutional change**

The consortium has extensive experience in changing legal and institutional frameworks in transport during the last 15 years. A lot of this experience has been obtained from projects in TRACECA countries. Transport legislation between TRACECA countries still differs substantial, while this forms a clear obstacle for the integration of transport systems within the TRACECA corridor. Especially within a very detailed subject as transport of dangerous goods, legislation differs more than in other subjects. As these details are many times contained within primary legislation, change of legislation takes a lot of time.

The consortium for this project has extensive experience with review and development of transport legislation, and will apply this experience to streamline the legislative processes as efficient as possible and responsible.

### **The logic of proposed interventions**

The project does provide a clear intervention logic, i.e. the activities as described in the ToR and elaborated in the Chapter 3 contribute to the delivery of the three defined results, i.e. (i) Economic analysis of all possible schemes; (ii) Integrated technical scheme for LPG Transportation and (iii) Study of the regulatory authorities, under certain defined assumptions. The three defined results, against stated assumptions, should contribute to the introduction of an alternative, economic and modern transport scheme for LPG in the TRACECA region. The intervention logic, as well as the assumptions and indicators are presented in the Logical framework matrix in Chapter 5.

## **2.3 Explanation of the risks and assumptions**

### **Assumptions**

The principal assumption is that the ratification of the Basic Multilateral Agreement on international transport for the development of the TRACECA Corridor and the endorsement of the ToR provides a sufficient mandate for the consortium in each state to resolve the many issues that may arise.

A second assumption regards the fact that oil prices have been and will remain on the rise which have made LPG an attractive alternative source of energy. Since the project focuses on improving the transport schemes of LPG in the TRACECA region, it is assumed that economic and financial impacts of the project will be positive by lowering unit costs for transport, increasing return on capital investment and creating jobs for the economy. These positive economic factors are assumed to oversize the considerable investment risks involved in establishing a unified transport system in Azerbaijan, Georgia, Kazakhstan, Turkmenistan and Ukraine, for which it is assumed that these countries will give their full cooperation and commitment. This positive environment and common understanding is important for the fast implementation of the necessary investments. To determine these it is assumed that:



- ❖ Basic data as input for economic and financial analysis are available.
- ❖ Current and future development plans for infrastructure and superstructure are accessible
- ❖ Insight in storage and loading development plans is possible.

Another important assumption addresses the positive environmental impact of re-injecting rather than flaring natural gas, especially in case of LPG which is a dispersible gas, inert and not harmful to the environment.

In the Logical Framework, as presented in Chapter 5, assumptions are presented per intervention logic level. These assumptions are summarised below.

#### *Level project purpose*

- ❖ The economic and financial impact of the project is positive, as it will lead to more efficient exploitation of hydrocarbon natural resources in Central Asia, by lowering unit costs for transport, increasing return on capital investment, and creating jobs for the local economy.
- ❖ The overall environmental impact is positive, as oil drillers should be motivated to re-inject rather than flare natural gas, as a marketable means of transport of LPG can justify the cost of re-injection. LPG is a dispersible gas, inert and not environmentally harmful.
- ❖ The project has full cooperation and commitment of all major project partners involved.

#### *Level project result 1*

- ❖ A common understanding on the need for a fast implementation of the necessary investments.
- ❖ A good insight in costs and benefits related to the transportation of LPG in the region with a basic amount of relevant data accessible.
- ❖ Basic data availability as input for economic and financial analysis.

#### *Level project result 2*

- ❖ Access to insight in current and future development plans for infrastructure and superstructure
- ❖ Access to insight in storage and loading development plans.
- ❖ The environmental implications of the required changes can be dealt with properly.

#### *Level project result 3*

- ❖ A high level of coordination and cooperation, which is required from the competent authorities within the beneficiary countries towards the creation of an integrated multimodal transport system can be attained.
- ❖ Proposed regulations are supported and adopted by national governments.
- ❖ The changes in regulation have a direct positive impact on transport harmonisation.
- ❖ The international regulation is stable.



#### *Level activities*

- ❖ Relevant institutes and bodies are providing inputs on costs and benefits
- ❖ Full support and commitment from relevant parties in the logistic chain
- ❖ Full co-operation, support and commitment from regulatory authorities
- ❖ Availability of agreements, treaties and legislation

#### **Risks**

The project has several risks, as described in the ToR. In its approach the consortium proposes means to decrease these risks as much as possible.

The first risk mentioned in the Terms of Reference is that there will be no common understanding on the need for a fast implementation of the necessary investments and the subsequent organisational and legal adaptations. This risk is rather high because, as for instance changing legislation is sometimes a time consuming activity involving many stakeholders, while the additional implementation of these legal changes will take as well a lot of time. As these legal processes will differ between involved countries, this may hamper the rapid achievement of objectives. The consortium proposes to reduce this risk by assessing the current legislation on dangerous goods in an early phase of the project, as described in our approach in next chapter (see section 3.3).

Another risk identified in the ToR is the fact that it is not possible to attain the high level coordination and cooperation which is required from the competent authorities within the beneficiary countries towards the creation of an integrated combined transport system for LPG.

The consortium proposes to reduce these risks by organising workshops with relevant stakeholders in the market of dangerous goods. For the organisation of these workshops we may use our network acquired during the TRACECA project Capacity Development for Senior Transport Officials, completed with representatives of the oil and gas industry and officials related to this subject. During these workshops position papers will be presented and discussed, in order to create a positive environment for the necessary common support to the objectives of this project.

A third risk could be that environmental implications of the required changes cannot be dealt with properly. The consortium will make use of state of the art environmental knowledge that is available with the consortium members, both at scientific and at practical level to deal with this issue, as detailed in the approach of the next chapter.



### 3 STRATEGY

#### 3.1 Project Objectives

The overall objective of this project is the introduction of an alternative, economic and modern transport scheme of LPG in the region, which will minimize existing high transportation costs and improve safety in handling procedures of dangerous goods but not limited to LPG only, which could:

- ❖ attract further investments in the region in the transport as well as in the oil and chemical industry;
- ❖ stimulate interest from oil companies to Increase LPG production, which is currently at very low levels, since existing high costs of transportation will be minimized;
- ❖ create additional sources of income for countries involved, through the increase in LPG production and through additional transport and transit market opportunities;
- ❖ promote the use of an alternative, environmentally friendly clean fuel for both final consumers and industrial customers;
- ❖ expand the scope of the INOGATE and TRACECA projects to include an additional and potentially very profitable market, namely LPG

The specific objective of the project is to deliver a feasibility study which includes the technical, economical, financial, environmental and legal/institutional appraisal for the transport of LPG through the TRACECA corridor.

#### 3.2 Outline of the approach

The approach proposed by the consortium is based on experiences of the consortium leader in previous TRACECA projects. Lessons learned within the scope of these projects have been incorporated in this project proposal. The consortium covers a wide range of expertise from traffic forecasting, transport infrastructure, transport legislation, dangerous goods including LPG, and environmental issues.

##### Phases and tasks

In order to deliver the objectives, as stated in the ToR and the previous chapter, the consortium proposes a number of phases and tasks, as presented in Table 3.1. The phases, apart from the Inception phase, follow the three defined results. The tasks are in line with the defined activities, as presented in the Logical Framework (Chapter 5).



**Table 3.1** *Phases and Tasks*

Phases	Tasks
0. Inception	Task 0: Inception,
1. Economic analysis of all possible schemes	Task 1A Analysis of the market for LPG products Task 1B Development of transport forecasting scenarios for LPG Task 1C Economic appraisal of LPG transport schemes
2. Integrated technical scheme for LPG Transportation	Task 2A Appraisal of existing transport facilities of LPG Task 2B Appraisal of the safety conditions for LPG transport
3. Study of the regulatory authorities	Task 3A Analysis of agreements and treaties Task 3B Review of dangerous goods legislation Task 3C Analysis of regulatory authorities
4. Finalisation	Task 4: Finalisation

The phases and tasks are described in detail in Paragraph 3.2.

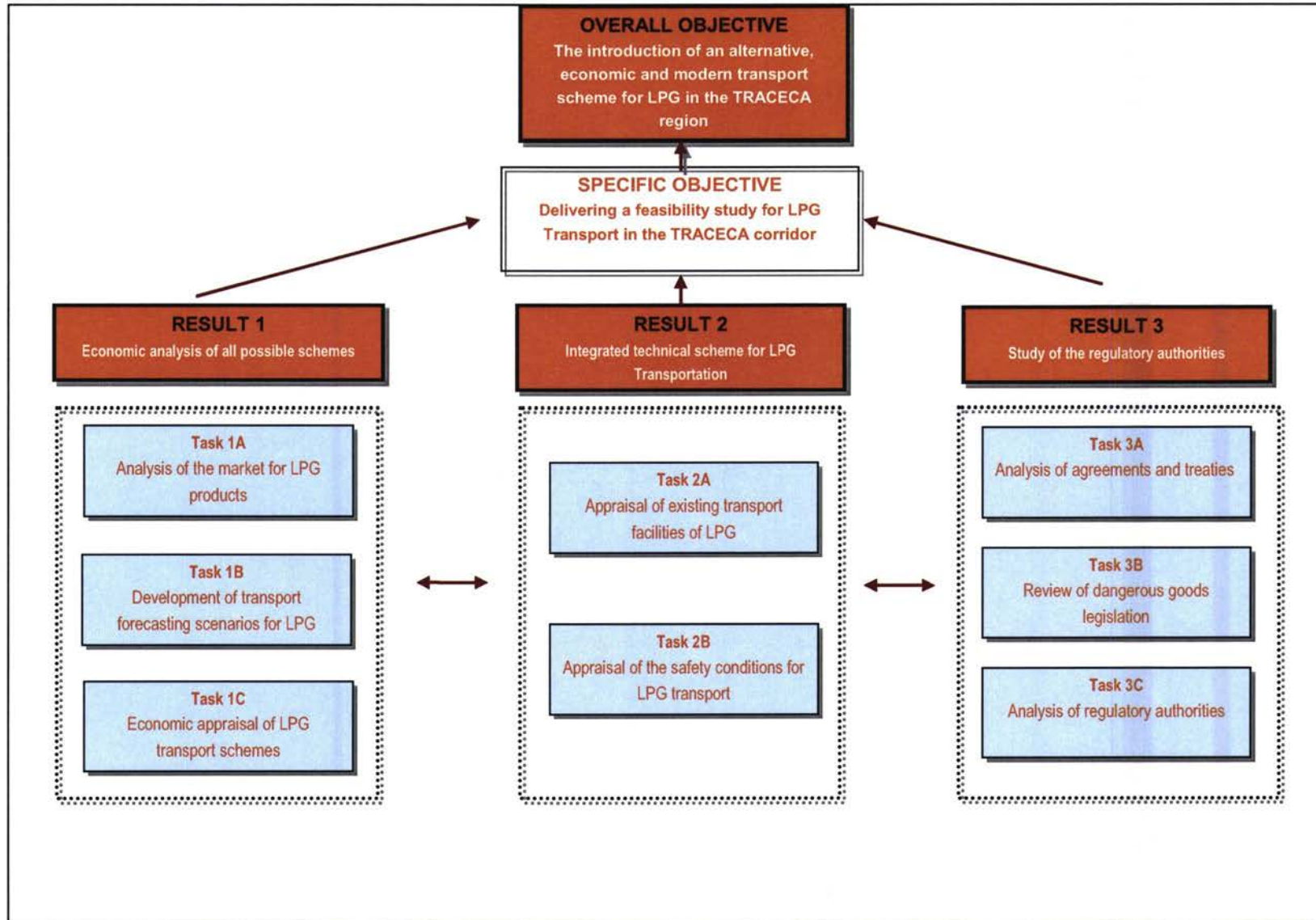
#### **Relationship between phases and tasks**

A strong relationship exists between the defined phases and tasks. At the level of phases, the inception phase provides the basis for the delivery of the phases 1-3. During the inception phase, the scope of activities, as well as the planning and programming of activities will be fine-tuned in close co-operation with the client.

Phase 1 contains some inventory elements (Task 1A), as well as the economic appraisal, which heavily relies on the technical inputs from phase 2. Phase 3 overarches the first and second phase. Phase 4 takes the outputs of all previous phases to finalise the project.

Figure 3.1 on the next page provides a graphical presentation of the relationships between the phases and tasks.







### Key features of the approach

The following items are considered to be key features of the approach:

- ❖ A thorough economic analysis of all possible schemes for LPG transport in the TRACECA region, including an analysis of the market for LPG products, development of transport forecast scenarios and an economic appraisal of LPG transport schemes.
- ❖ A profound appraisal of the technical state of LPG transport facilities and safety conditions.
- ❖ A comprehensive investigation and analysis of the existing situation with regard to the legal and institutional framework for transport of dangerous goods, and specifically LPG, in each of the TRACECA countries.
- ❖ A benchmarking of this legal and institutional framework for transport of dangerous goods with international best practices.
- ❖ Assistance to the drafting of revised national laws, rules and regulations, procedures and documents on transport of dangerous goods.
- ❖ Country-wise discussion and dissemination of findings with major responsible stakeholders in the respective countries.
- ❖ A series of programmed consultation events, including multi-country seminars, country workshops, study tour, dedicated field visits, etc

### Project organisation

The project will establish permanent offices in **Baku, Poti and Aktau**. Satellite offices will be operational in *Istanbul, Turkey* and *Kiev, Ukraine*.

#### *Project offices*

Project offices will be established in Poti, Baku and Aktau. These offices will be managed by the respective local coordinators of this project. Additionally these offices will have a frequent presence of the Team Leader, the Task Leader Engineering and Operations and the Task Leader Legal and Environmental matters. The project office will be permanently staffed by local staff.

#### *Satellite offices*

The satellite offices in Kiev, where the Leading Consultant recently has established a locally managed Logistics Platform, and Turkey, where the Leading Consultant operates a joint stock company (NEA Turkey) with the national association of international road transport operators (UND) has been added to ensure the regional emphasis which is so essential in the execution of this project. Adding Turkey is also of interest as this country can become the main consumer of TRACECA LPG.



### **Team of experts**

The project will be executed by a team of Key Experts:

1. Team Leader/Transport economist: Arndt Heinrich von Oertzen
2. Task Leader Engineering and Operations: Klaus Broersma
3. Task Leader Legal and Environmental Matters: Menno Langeveld
4. Local Coordinator Baku: Rauf Mammadov
5. Local Coordinator Poti: Grigor Matuashvili
6. Local Coordinator Aktau: Nurzhan Saginaev

The Key Experts are presented in detail in Paragraph 3.6.

Furthermore, a pool of other experts will be involved. The roles of these experts are described in Paragraph 3.7.



## **3.3 List of proposed activities**

### **3.3.1 Inception Phase**

The inception phase provides the basis for the implementation of the remainder of the projects, i.e. the delivery of the three defined results.



In the inception phase the project team will be mobilised and project offices established. Initial meetings are proposed with the Task Manager and the TRACECA Permanent Secretariat. During these meetings the consortiums propose to discuss at least the following subjects:

- ❖ Comments on the approach presented in this proposal.
- ❖ Set up of the working procedures, including nomination of formal contact persons.
- ❖ Discussion on the envisaged organisational set-up.
- ❖ Discussion on mobilisation of pool of short-term experts.
- ❖ Discussion on the available background documentation, which has yet to be passed on to the Consultants.
- ❖ Discussion on role of INOGATE and UN-ECE.
- ❖ Discussion on the planning of the seminars, workshops, study tours and field visits during the course of the project.
- ❖ Discussion on the detailed planning, including meetings, reporting and other milestones.

Additionally the consortium proposes to organise a high level multi-country seminar in Baku to kick off the project and to aim for a fundamentally positive attitude amongst the participating countries to achieve the project objectives.

The consortium will produce an Inception Report within two months after the commencement of the project. This Inception Report will contain initial findings and propose modifications to the methodology and work plan, if feasible, as well as possible modified institutional set-up and mobilisation of the pool of short-term experts.

#### *Output*

Inception Report

### **3.3.2 Result 1: Economic analysis of all possible schemes**

#### **Task 1A Analysis of the market for LPG products**

##### *Approach*

The consortium will analyse the current market situation for LPG in the TRACECA region and in relation with Member States of the European Union. This analysis will include but will not be limited to:

- ❖ A brief description of the main characteristics of LPG fractions.
- ❖ The possible uses of these LPG fractions.
- ❖ Potential producers of LPG.
- ❖ Potential consumers.

Next the consortium will evaluate target markets for LPG considering best netbacks for producers.



*Output*

Market Analysis Report

**Task 1B Development of transport forecasting scenarios for LPG**

*Approach*

The consortium will develop comprehensive transport forecasts for different scenarios with a time horizon up to 2015. The scenarios will look strongly at existing transport routes for LPG from Kazakhstan and Turkmenistan and will provide a traffic forecast through the Caspian Sea and via the Caucasus land bridge to the Black Sea coast of Georgia as well as the Black Sea transport links via Ukraine like Ilychevsk in Ukraine.

*Output*

Transport Forecast Report

**Task 1C Economic appraisal of LPG transport schemes**

*Approach*

This task is crucial in the delivery of the project's objective. The consortium will carry out an estimation of all investment and running costs necessary to update infrastructural and safety needs to upgrade transport of LPG in the TRACECA corridor. A number of relevant (technical and operational) options will be considered. In addition potential benefits that will derive from the chosen options will be identified, quantified and monetarised where possible. The estimated and calculated costs and benefits values will provide the input for the economic appraisal. Sensitivity analysis will be carried out for the critical parameters of the calculation.

*Output*

Economic Appraisal Report

**3.3.3 Result 2: Integrated technical scheme for LPG Transportation**

**Task 2A Appraisal of existing transport facilities of LPG**

*Approach*

The consortium will identify existing LPG transport facilities and the measures for their possible modernisation and as well identify new facilities to be built. This will result in a rough cost estimation of investments and modernisation needs. Additionally operational costs will be estimated up to the time horizon of 2015.



The detailed appraisal will mainly comprise the following intermodal transport locations:

- ❖ Means of storage and loading in Aktau and/or Kutyk (Yeralievo), Kazakhstan
- ❖ Means of storage and loading in Turkmenbashi or Okarem, Turkmenistan
- ❖ Means of transport across the Caspian Sea
- ❖ Shipping logistics in the Caucasus Area
- ❖ Means of storage and loading in the Georgian ports of Poti and Batumi
- ❖ Existing transport means and transport development plans in the Odessa Region

In Kazakhstan and Turkmenistan the consortium will assist the project partners to identify suitable location(s) for storage and loading of LPG. The means of transport will account for receipt of LPG gas in rail tank cars on an FCA basis and manipulation of the LPG to a FOB basis.

On the Caspian Sea the consortium will choose the optimal means of transport with respect to all forms of manipulation of LPG: rail, car, isotainer, bulk. The transport scheme will account for receipt of LPG gas at Azerbaijan to be further transported via the Caucasian land bridge storage and transshipment options in Azerbaijan. Here the consortium will identify suitable location(s) for storage and loading of LPG. The means of transport will account for receipt of LPG gas via the Caspian Sea on a CIF basis and manipulation of the LPG to a FCA basis on rail. The consortium will as well contact potential partners and investigate their potential to manage the administration and shipment of LPG.

Finally the consortium will survey and assess the shipping capabilities of LPG through the Caucasus region to the ports of Poti and Batumi in Georgia, including preparation of volume capabilities and costs estimations.

#### *Output*

Transport Facilities Appraisal Report

### **Task 2B Appraisal of the safety conditions for LPG transport**

#### *Approach*

The consortium will analyse the risks involved in transport of LPG in the TRACECA corridor, and take every precaution to design a transport scheme which is safe in every aspect and stage of transport and which corresponds to international standards for the transport of dangerous goods. Special attention will be given by the consortium to environmental matters involved with transport of LPG in the Caspian and Black Sea.

#### *Output*

Safety Conditions Report



### 3.3.4 Result 3: Study of the regulatory authorities

#### Task 3A Analysis of agreements and treaties

##### *Approach*

The consortium will analyse concluded bilateral and multilateral agreements and accession to international conventions, e.g. ADR/UN ECE, related to the transport and energy sector of the beneficiary countries. While the contents and scope of bilateral and multilateral agreements are many times difficult to retrieve, this is certainly not the case with international conventions. At present for instance, of the five countries involved, three of the five involved TRACECA countries have acceded to the ADR Agreement (source UN ECE, Status of 8 December 2005). This Agreement is very important for the international road transport of dangerous goods, and contains a high level of detail which is updated every two years.

##### *Output*

Legal and Institutional Framework Report

#### Task 3B Review of dangerous goods legislation

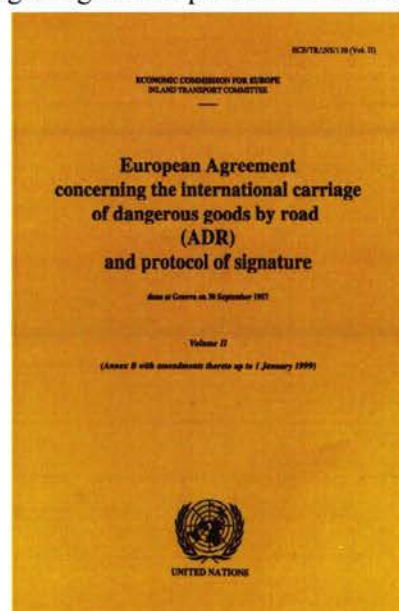
##### *Approach*

As the subject of dangerous goods contains a high level of detailed information, the way to transpose these details into domestic legislation is very important. An important but many times made mistake is to put all these details in primary legislation, such as laws and acts that need approval from a Parliament. In most countries it takes a longer legislative process to develop primary legislation (e.g. law on transport of dangerous goods), while it is much easier to issue secondary legislation based on primary legislation (e.g. ministerial order based on law of transport of dangerous goods). Especially in transport of dangerous goods changes are numerous, for instance by the upgrade of the ADR Agreement every two years.

The consortium will review in each beneficiary country the legal framework for transport of dangerous goods, including LPG, and will give recommendations where necessary for amendments of this legislation

##### *Output*

Legal and Institutional Framework Report





### **Task 3C Analysis of regulatory authorities**

#### *Approach*

Most domestic law contains provisions on the organisations that are officially assigned by the Government for official tasks in the field of transport of dangerous goods. This can be organisations that:

- ❖ Approve vehicles used for the transport of dangerous goods (in the Netherlands: Department of Road Transport, RDW) vehicle technology and information centre).
- ❖ Carry out periodical technical inspections.
- ❖ Test packaging and vehicles.
- ❖ Set exams to test the professionalism of carriers in relation to dangerous goods and that are competent to issue certificates.
- ❖ Have control and enforcement powers.

The consortium, assisted by the Freight Transport Inspectorate Netherlands, is the leading supervision and enforcement body on transport of dangerous goods in the Netherlands, will analyse the current institutional framework for transport of dangerous goods in the involved TRACECA countries.

#### *Output*

Legal and Institutional Framework Report

### **3.3.5 Finalisation phase**

In the finalisation phase project outputs from all previous phases are brought together and will be used to produce the (draft) Final Report. An important part of the finalisation phase is a two-day multi-country seminar in which the results of all tasks will be presented and discussed with stakeholders in the market of LPG in the participating TRACECA countries. Feedback will be incorporated in the Final Report.

#### *Output*

Final Report

### **3.3.6 Study Tours**

An essential activity for all tasks, and above all for a better understanding of the project objectives, will be the organisation of a study tour to Turkey for phase 1 (as a potential main consumer of LPG) and a study tour to Germany for phase 2-3 (as a country with high level technical framework for LPG infrastructure and transport) During the Germany study tour visits to the Netherlands and Belgium can be considered.





During this study tour the participants will discuss with stakeholders of the LPG industry and responsible authorities (ministry of transport, chamber of commerce etc) the potential of LPG transport from TRACECA countries to the European Union and other countries.

### **3.4 Related inputs and outputs**

A detailed overview of all inputs in the project is provided in the Timetable of Activities and the corresponding manning schedule. In addition, the Logical Framework provides an overview of inputs on a more aggregated level.

The project will lead to a series of measurable outputs, which are:

- ❖ Inception Report
- ❖ Market Analysis Report
- ❖ Transport Forecast Report
- ❖ Transport Facilities Appraisal Report
- ❖ Safety Conditions Report
- ❖ Legal and Institutional Framework report
- ❖ Economic Appraisal Report
- ❖ Final Report

Additional outputs are the consultation events, e.g. the multi-country seminars, the country workshops and the study tours. More on these events are presented in section 4.2.

### **3.5 Division of tasks and responsibilities of the consortium**

The consortium consists of four partners, each with a specific role in the project. Table 3.2 summarises the project's requirements, as well as the consortium coverage.



**Table 3.2** *Division of tasks and responsibilities*

<b>Resource area</b>	<b>NEA</b>	<b>HPTI</b>	<b>UMCO</b>	<b>Hoyer</b>
Broad experience in the TRACECA countries, with recent and ongoing assignments in the region	✓	✓		
Excellent network in the TRACECA region, with representatives from both the public and private sector. Good working relationship with TRACECA secretariat	✓	✓		
Experience in developing technical schemes for transportation of dangerous goods and /or the related regulatory framework	✓	✓	✓	✓
Management of projects of similar importance in the NIS or Central European Countries in the last 5 years	✓	✓		✓
Experience in Training of Dangerous goods in the NIS and/or Central European Countries	✓	✓		
Ample experience in economic analysis of integrated transport solutions	✓			✓
Effective transfer of know-how and capacity building aimed towards sustainable development	✓	✓		
Extensive experience in developing regulatory frameworks in the field of transport in general and for transport of dangerous goods specifically	✓			✓
Good insight in the logistical requirements for the transport of dangerous goods, including LPG	✓	✓	✓	✓
Knowledge of EU requirements on transportation of dangerous goods, including LPG	✓	✓	✓	✓



Table 3.3 summarises the input of the consortium partners in the implementation and execution of the various tasks.

**Table 3.3** *Input of consortium partners in the defined tasks*

Resource area	NEA	HTPI	UMCO	Hoyer
Task 0: Inception	✓			
Task 1A Analysis of the market for LPG products	✓	✓		✓
Task 1B Development of transport forecasting scenarios for LPG	✓			
Task 1C Estimation of costs of LPG transport schemes	✓	✓		✓
Task 2A Appraisal of existing transport facilities of LPG	✓	✓	✓	✓
Task 2B Appraisal of the safety conditions for LPG transport	✓	✓	✓	✓
Task 3A Analysis of agreements and treaties	✓			
Task 3B Review of dangerous goods legislation	✓			
Task 3C Analysis of regulatory authorities	✓	✓	✓	✓
Task 4: Finalisation	✓			



### 3.6 Description of each Partner



#### **NEA Transport research and training**

NEA is the consortium leader and will provide the 2 of the 4 Key Experts to the project. NEA will be responsible for the overall management of the project and the set up of the local organisations. NEA will also supply trainers for the programme and it will play a supportive role in the organisation of one of the Study Tours (the Netherlands).

NEA is leading partner in the project "Capacity development for Senior Transport Officials", which aims to develop and implement a training for top level decision makers from the Ministries of Transport and corresponding agencies and administrations of the TRACECA countries and for the heads of border stations and customs stations, the heads of the operational departments of railways, terminal /port operators and ferry operators alongside the TRACECA Corridor as well as stakeholders of the transport industry. The capacity development is aimed at new technologies, system changes and communication, the transfer of Western European know-how to decision makers and stakeholders within TRACECA region and support for the promotion of the TRACECA corridor and the TRACECA Multilateral Agreement (MLA).

NEA was the leading party in the project "TRACECA Immediate Training Action" with the primary objective of support to the regional and work forces directing and contributing to the reform process to achieve regional free traffic flow in line with market demand and future economic growth. To achieve a maximum leverage of the programme, the training was focused on two particular sub-groups; Senior Level Management and Trainers/Middle to Lower Level Management in the transport sector. The experience gained in this project is a huge asset for this project.

Furthermore NEA has carried out various other TRACECA projects. It was also leading the PHARE project in which NEA set up vocational training centres for the transport sector while at the same time giving recommendations for changes in the institutional set up of the targeted countries. Various project in the field of distance learning in the Balkan region, Russia and China were carried out as were projects in the Ukraine, Georgia and Azerbaijan.



**HPTI Hamburg Port Training Institute GmbH** (HPTI) has extensive experience in conducting projects in the Caucasus, in Eastern Europe, in the New Independent States of Central Asia and in Russia, and has executed several assignments for Tacis and Traceca. The decision to participate in this project has been made in view of HPTI's profound professional experience and expertise and its past participation in other European Union projects.

HPTI is an international organisation and manpower development consultancy firm specialised in the maritime transport field and has conducted several organisational and human resources development projects world-wide as well as numerous training programmes both in Hamburg and abroad. HPTI has gained particular experience in projects involving partners from the CIS in the various transport sectors. In the recent past, HPTI has responsibly participated in the Tacis-TRACECA projects

- ❖ Development of the Caspian Shipping Company, Azerbaijan
- ❖ Management Assistance and Training for the Port of Baku, Azerbaijan,
- ❖ Feasibility Study of New Terminal Facilities in the Georgian Ports,
- ❖ Coordination Maritime Connection Ukraine – Georgia
- ❖ TRACECA Intermodal Services.
- ❖ Supervision of the Supply and Delivery of Track, Turnouts and Handling Equipment for the Rail Ferry Terminal at the Port of Batumi, Georgia
- ❖ TRACECA Railway Transit Oil Logistical Centre: Improvement of Railway Transit Oil Logistical Corridor between Azerbaijan and Georgia
- ❖ Supervision and Training of Navigation Aids Equipment – Azerbaijan, Kazakhstan and Turkmenistan

HPTI is familiar with the administrative structures, the planning and decision making procedures as well as the business mentality and the commercial philosophy in the region. The detailed knowledge of the firm's experts and the experiences gained while working with TRACECA as well as the mutual understanding that has developed between the local counterparts and the experts in the course of time will have a profound synergy effect on the project and lead to effective and efficient results.

HPTI has extensive functional, sectoral and regional experience. Highly qualified staff as well as accumulated know-how and experience in the provision of training and consultancy services in transport-related projects will be made available as appropriate to the performance of the work.

Further to its own staff, HPTI is able to tap all resources of the Hamburg Port and Transport Industry. HPTI is also able to draw on the resources of the Hamburg University of Economics and Policy, of the Department of Transport Science of Hamburg University and of the Logistics



Research Society on the Hamburg Technical University. On the administrative side, HPTI will have access to professional experience and advice from the State Government of Hamburg, in particular from the State Ministry for Economic and Labour Affairs (that deals with transport and EU matters), from the Federal Ministry of Transport, from the Federal Office for Shipping (that deals with IMO matters), from the German Ship Owners' Association as well as from the transport section of the Chamber of Commerce.

Due to the experience, good standing, international and local knowledge of the transport sector of the TRACECA countries and the experience gained in the execution of projects of a similar nature, HPTI is well suited to fulfil the tasks involved and to achieve the required results together with the other consortium partners.



## UMCO

UMCO Umwelt Consult GmbH (UMCO) is a consulting company founded 1982. As a service provider for the industry UMCO deals with questions of environment, health and safety in businesses of "value-added activities in the chemical industry and their suppliers".

The UMCO activities are focused on three main fields of companies needs:

- ❖ Materials and products (substances risks)
- ❖ Facilities (storage, production, transhipment)
- ❖ Organisation (management systems, trainings, procedures)

With group headquarters located in Hamburg, UMCO operates nationwide in the Federal Republic of Germany and also abroad. UMCO's industrial origin and long-term experience as consultant for successful business firms at home and abroad is its primary strength today. 23 years of operational experience enable UMCO to guarantee that business firms efficiently comply with legal, technical and organizational requirements and meet highest quality standards.

UMCO services deal with the hole range of E,H & S issues in companies; especially:

- ❖ Environmental Protection & Safety for Industrial Plants
- ❖ environmental protection conceptions and consulting, safety for industrial plants, authorization and authority management, environmental protection representatives, training
- ❖ Advice on Dangerous Goods
- ❖ external dangerous goods representative, dangerous goods management, work and procedure instructions, training, advice on safety, advice on dangerous goods
- ❖ Chemical Product Service
- ❖ safety data sheet / tremcard / labels, (dangerous) substances data base, research – registrations, GlobalChem24 – the 24 hours-emergency-service
- ❖ Occupational Safety and Health
- ❖ occupational safety management (organisation, safety management, plant inspections, assessments, dangerous substances management), occupational safety representatives (external expert for safety at work, fire protection representative, breakdown representative), explosion protection (document), training, emergency training
- ❖ Strategic Advice and Conception
- ❖ installation and adaptation of management systems, environmental audits and risk analysis (due diligence), legal and authorization cadastre, training programs and training modules, systems for environmental protection and dangerous substances, strategic advice

The UMCO Team consists presently of about 20 interdisciplinary working employees including specific expert qualifications and experiences in different trades (e.g.: bio and chemical



engineers, geologists, chemists, safety engineers, captain, industrial engineer, environmental scientists etc.)

UMCO supports approx. 400 - 500 companies in Germany and abroad working in different branches of industry, but focused on:

- ❖ chemical and pharmaceutical industry and retailer
- ❖ Logistics (storage, transshipment and transport businesses)
- ❖ Port industry.





## **HOYER** GASLOG

**HOYER Gaslog** is a member of the Hoyer Group with almost 50 years of experience in the handling and transport of dangerous cargoes. Operating on a worldwide basis, the HOYER GROUP is present in 87 countries worldwide and owns a fleet of tank containers, specialised containers, road tankers and other transport equipment. The HOYER GROUP's core competence covers 6 areas of business: chemicals, food, petroleum, gas and silo logistics, as well as every kind of technical and logistical activity. By implementing individual full-service concepts while also providing concrete transport services, the Group is able to satisfy the highest standards of global markets and has a good overview on the demands and development trends of the market.

HOYER Gaslog takes care of transport, storage, transshipment of fluids, bulk products and gases, tank cleaning, workshops, as well as of filling and blending of products.

For the transport of liquids, HOYER Gaslog uses its own fleet of road tankers and tank containers, ensuring the fulfilment of highest standards in the area of safety, health, environmental protection and quality control.

HOYER Gaslog uses all available modes of transport, distinguishing primarily between road transport and intermodal transport. The HOYER Group's pan-European network supports its activities in all these modes of transport, ensuring flexible and reliable service at all times. HOYER Gaslog is widely regarded as being one of the pioneers of intermodal transport, bringing together the advantages of the various modes of transport - rail, road and sea.

HOYER Gaslog can draw on many years of know-how in the handling of gases and has become a competent and reliable partner. In addition to practical operation, transport and storage of dangerous cargoes and LPG, HOYER Gaslog also provides consulting in these areas for clients worldwide, helping to find optimum solutions for individual customers and has a gained good understanding of different local conditions in the oil and gas markets.



### 3.7 Key Experts

The core team consists of six Key Experts:

- |   |                            |
|---|----------------------------|
| 1. Team Leader/Transport economist:             | Arndt Heinrich von Oertzen |
| 2. Task Leader Engineering and Operations:      | Klaus Broersma             |
| 3. Task Leader Legal and Environmental Matters: | Menno Langeveld            |
| 4. Local Coordinator Baku:                      | Rauf Mammadov              |
| 5. Local Coordinator Poti:                      | Grigor Matuashvili         |
| 6. Local Coordinator Aktau:                     | Nurzhan Saginaev           |

The Key Experts are presented in more detail below. More elaborated information can be found in the CVs that are presented in Section III of this Technical Proposal. (See ANNEX IV).

#### **Arndt Heinrich von Oertzen, Team leader and transport economist**

Arndt Heinrich von Oertzen is an economist with more than 15 years comprehensive practical experience in CIS logistics and transport matters. He has been responsible for management, training and education of transport teams throughout the CIS for oil and gas, and the successful development and implementation of complex intermodal transport chains by truck, rail, vessel and terminals for oil and gas. As a team leader he has general management responsibility for transport profit centres to up to 20 persons since 1990. He also has comprehensive and applicable knowledge on issues concerning intermodal transport; relevant studies on traffic forecast for oil products and extensive shipping expertise in CIS countries as well as other countries.

Mr von Oertzen has strong editorial, language and communication skills in German and English, combined with a working knowledge of Russian.

#### **Klaus Broersma, Task leader engineering and operations**

Klaus Broersma, with a M.Sc. in Civil Engineering, has a very extensive track-record in transport engineering and operations projects that has been built up in a close to forty years career. Mr Broersma covers a variety of modes of transport, i.e. roads, rail, air, IWT and maritime transport. He has working experience in the region, i.e. through projects in Russian Federation, Bulgaria, Romania, Albania, Kosovo, Slovenia and Armenia, Azerbaijan and Georgia. Through his presence in the region, Mr Broersma has developed basic Russian communication skills, besides his excellent English communication skills.

Activities include technical and economic feasibility studies for infrastructure development in road, rail and ports. Also, Mr Broersma has vast experience in transport operations, again in the relevant modes for this project, i.e. road, rail and maritime transport. As one of the main education subjects transport planning & traffic engineering has been a specific area of expertise. With the combination of technical and economic experience, Mr Broersma is capable of



providing valuable input in economic analysis through extensive knowledge of traffic flows, cost estimates and benefits. Mr Broersma in his position as engineering expert in transport policy development projects (e.g. in Bulgaria in 2003) has dealt with transport and requirements of dangerous goods.

**Menno Langeveld, Task leader legal and environmental matters**

Menno Langeveld is a legal expert and geographer with extensive international experience in International Law and Transport Law. He has been lecturer in International Law/Maritime Law at the Royal Netherlands Naval Institute and worked as legal expert in many World Bank, ADB and European Commission (EC) transport projects, e.g. the TRACECA "International Road Transport Facilitation" and TRACECA "Harmonisation of Border Crossing Procedures" projects.

Mr. Langeveld reviewed transport legislation in many countries, analysed legal rules, regulations and governmental policies, e.g. regarding the development of logistics centres in St Petersburg, and reviewed transport, customs and related legislation in Kazakhstan. For the EC he analysed the relation between transport and the environment and he was involved in several projects related to the transport of dangerous goods. Furthermore he drafted a Law on Roads and a Law on Road Transport in Kosovo, a Law on Freight Forwarding in Kazakhstan, a Water Transport Law in China and maritime transport legislation in Lebanon.

Until recently Mr Langeveld worked in a EU Research Project that focused on the possibilities of creating new EU legislation for the freight forwarding and intermodal transport sector. Besides that he is working for the ADB in Pakistan to develop a model Border Crossing Facilitation with Afghanistan.

Mr Langeveld has strong editorial, language and communication skills in Dutch and English, combined with a working knowledge of Spanish, French, German and a little Russian.

**Rauf Mammadov, Local coordinator Baku**

Mr Mammadov is an engineer and works presently as freight forwarder in Baku. He has more than 10 years experience in the sphere of dangerous goods transportation; excellent knowledge of ADR requirements and national legal and regulatory framework in the sphere of dangerous goods transportation, and specifically for the energy sector in the Caspian. He has got developed skills in project management, contracts, cost control, marketing, recruitment, managing people and project implementation specific to Warehouse Management Systems. Mr Mammadov is fluent in Russian, Azeri, English and Turkish language.

**Grigor Matuashvili, Local coordinator Poti**

Mr Matuashvili is an engineer and works presently as freight forwarder in Poti. He has more than 10 years experience in the sphere of dangerous goods transportation; excellent knowledge of ADR requirements and national legal and regulatory framework in the sphere of dangerous goods transportation. He has specific familiarity with international logistics as he worked several years as forwarder in Nigeria. Besides he has extensive experience in the energy sector,



providing services in several off shore drilling and survey projects. Mr Mutuashvilli is fluent in Georgian, English and Russian language.

**Nurzhan Saginaev, Local coordinator Aktau**

Mr Sagineav is an engineer and works presently as freight forwarder in Aktau and has more than 10 years experience in the sphere of dangerous goods transportation; excellent knowledge of ADR requirements and national legal and regulatory framework in the sphere of dangerous goods transportation. Mr Saginaev is fluent in Russian, Kazakh and English language.

**3.8 Other experts**

The consortium has mobilised a strong team of other experts. The consortium will apply clearly defined and transparent selection procedures to select these other experts. Professional qualifications, language skills and work experience will be, amongst others, important criteria for selection of other experts in order to be approved by the Contracting Authority. Besides international experts the consortium will also make use of local experts, which will be selected during the project execution. The selection procedure will be done in close cooperation with the client.

Table 3.4 presents a number of specialists together with their respective expertise. They will be described more in detail below.

*Table 3.4 Proposed other experts*

<b>POSITIONS</b>	<b>EXPERTS</b>
<b>Civil engineering for port infrastructure and superstructure</b>	Martin Quispel
<b>Rail engineering and operations</b>	Peter Kühn
<b>Gas and petrochemical storage engineering</b>	Jürgen Schlötelburg
<b>Shipping</b>	Jens Froese
<b>Safety standards for gas and petrochemical products and dangerous goods in general</b>	Ulf Ch. Inzelmann Jochen Schmidt
<b>Freight forwarding and multimodal logistics</b>	Gerhard Persdorf
<b>LPG gas and petrochemical markets</b>	Jürgen Schlötelburg
<b>Transport planning and forecasting</b>	Dick Tensen
<b>Institution building</b>	Robbert Lunsingh Scheurleer
<b>Transport law, International conventions and standards</b>	Adriaan Roest Crollius
<b>Environmental Impact Analysis</b>	Tatiana Eggert



*Martin Quispel*

Martin Quispel (MSc.) studied at Technical University of Delft works at NEA as a consultant focussing on intermodal transport and port infrastructure, inland shipping. Recent projects carried out for ports are '2nd opinion on shortsea terminal expansion, Groningen Seaports' and 'Strategic analysis and recommendations to accommodate the growth of Harlingen Seaports'. He also was involved in the TACIS project "Support to the development of a transit corridor policy in the Republic of Kazakhstan".

*Peter Kühn*

Mr Peter Kühn is a Senior Civil Servant in the rank of a Chief Civil Engineer in the Port Railways Department of the Hamburg Port Engineering Authority. The Port Railways Department owns, builds, maintains and oversees the port railway system with some 650 km of track, more than 1200 switches, 8 shunting and marshalling yards and a cargo throughput of more than 20 million tonnes annually. Mr Kühn has spend his entire professional life in the Port Railways Department in Hamburg and has mainly been concerned with the conceptualisation and planning of projects concerning newbuilding, restructuring and rehabilitation. He has a wide experience and an exceptional knowledge about all matters that concern the relationship between rail and ports. As about half the track length in the port is privately owned, but under the jurisdiction of the Port Railways Department, Mr Kühn, being the public inspector for it but at the same time the main contact person for the private siding operators, has developed a pragmatic and cost-conscious approach to rail construction and operations. He has, together with his colleagues, developed many cost saving schemes, like material recycling, the use of older material at installations requiring lesser quality, and novel approaches to standard maintenance problems.

*Jürgen Schlötelburg*

Mr Schlötelburg has thirty years of experience in the area of handling and transport of LPG as well as with transport equipment for LPG. Having worked for world-wide customers in the area of gas transport and handling, he has special knowledge concerning transport and storage facilities for dangerous goods and especially for LPG. During his career as head of the technical department in the HOYER Group, he has gained know how especially in the fields of operations of gas equipment, including knowledge on all relevant international rules and regulations concerning the handling, transport and storage of different types of gas and LPG. Presently, he is head of the business unit for all types of gas within the Hoyer Group. He is familiar with the world gas market and has experience in the work in the different market conditions as well as with local conditions in gas producing countries world-wide.

*Jens Froese*

Capt. Froese is Professor for Maritime Logistics and head of the Institute of Ship Operation, Sea Transport and Simulation (ISSUS) of the Hamburg Technical University (TUHH). Since 1985 he is also in charge of all scientific questions concerning ship handling simulation. Capt. Froese



is responsible for all research, development and implementation being done in his institute. He is lecturing on all questions related to shipping and sea transport, ship management and operations and takes care of the implementation of relevant rules, regulations and conventions in nautical training. As a project leader, Capt. Froese has been in charge for several international studies concerned with the optimisation of port and terminal layout and ship manoeuvring. He also carried out research and development projects in the fields of marine technology, sea transport and related intermodal transport, ship manoeuvring and vessel traffic management as well as information services. These studies were carried out on a national as well as on an international level. Capt. Froese is visiting professor at the World Maritime University in Malmö since 1988 and since 1999 at the Jimei Technical University Xiamen/China. Further, he is member of the Technical Board of the classification and certification society Germanischer Lloyd Hamburg.

#### *Ulf Ch. Inzelmann*

Mr Inzelmann has finished University as a graduated Engineer (in German: Dipl.-Ing.) for Environmental protection technology. He specialised for the last 17 years in national and international regulations for the transport of dangerous goods for all modes of transport. As a dangerous goods advisor related to the German "Gefahrgutbeauftragten-Verordnung" (regulation for responsible person for dangerous goods) from 1989 and as a EU-Safety advisor regarding to the dangerous goods safety advisor guideline of the year 2000 he attends to companies from the chemical industry as well as logistics providers. His work includes inspections, trainings and developing guidelines and procedures. As a senior expert of the UMCO GmbH located near the port of Hamburg he also worked extensively on the special requirements for the storing and loading/unloading of dangerous goods and environmentally hazardous substances. This comprises all aspects of Safety, Security, Building and Approving with regard to the special needs for such activities covered by the EU-Seveso-Guideline. Since 8 years, he is also one of the managing director and shareholder of UMCO. Mr. Inzelmann is the chairman of the dangerous goods working group of the German paint industry association (VdL e.V.) and is presenting the German association with the technical committee transport of the European paint association.

#### *Jochen Schmidt*

Captain Jochen Schmidt is a Maritime Safety Training Expert and Master Mariner with more than 30 years of professional experience. During his career as a seaman and thereafter working in various positions of responsibility within the State of Hamburg Port and the Harbour Police Force, he gathered the respective know-how for training of maritime personnel in all matters of port and shipping safety. During this time he established and headed the Dangerous Goods Section of the Department of Port Security. Furthermore, he developed curricula for simulator training and conducted simulator training in Hamburg for the Port and Harbour Police Force. Because of his long experience and his wide knowledge, he was appointed Senior Lecturer at the Federal Port and Waterways Police Academy, where he taught Maritime Accidents, Shipping Law, Environmental Protection and the Application of MARPOL. Further, Captain



Schmidt established and headed the section conducting Port State Control for the Harbour Police Force. He has sailed in responsible positions on ocean going tankers, bulk, reefer, container and general cargo vessels as well as inland waterway tank-vessels. During this time he gained experience in the handling and carriage of all kinds of cargo and hazardous liquid bulk cargo, from crude oil over petrochemical product to various liquid chemicals. He works in Hamburg as well as on location world-wide. Within a TRACECA project, he conducted training courses in shipping line management and fleet operations for experts of Caspian Shipping Company, and, some years later, surveyed the vessels, evaluated the ferry operations, investigated the need for aids to navigation as well as radar and radio equipment for the ports and assessed the capabilities and equipment of nautical training institutions.

#### *Gerhard Persdorf*

Mr Persdorf is a port and transport expert with more than 40 years of professional experience, both in the operations field and in the higher echelons of corporate management. He has long years of experience in corporate governance and has been instrumental in an ongoing corporatisation process of the firm. He is well versed in institutional restructuring, organisational development, privatisation and outsourcing, introducing modern management and accounting systems and the establishment of subsidiaries and independent firms. His tasks included designing tariffs, developing marketing strategies, conceptualising new service products, negotiating with clients and representing the company at major events world-wide. He has also been involved in the establishment of multimodal transport systems in the rail (container block trains) and the inland waterways sectors and participates in several national work groups dealing with these matters. Recently, he had worked in the Traceca project "Traceca Intermodal Services" and succeeded in establishing a company providing intermodal services in the Caucasian region. During his last years' assignments he gained field experience and grew familiar with the conditions and cultural background of the Caucasian and Central Asian region, especially in the transport sector. He set up a multi-modal transport product with transports from Germany to Central Asia via the Caucasus.

#### *Dick Tensen*

Dick Tensen has a Masters degree in economics and 28 years of experience in transport research and consultancy. He is specialised in transport forecasting and planning. He carried out a variety of projects with regard to various aspects of transport such as transport policy, institutional and market structure, operations and infrastructure. Many projects focussed on railways as well as on certain innovations in transport such as application of LPG and CNG fuel. He acted as a researcher, as a consultant and as a lecturer on behalf of authorities, organisations and transport companies in a large number of countries among which Kazakhstan, Uzbekistan, Ukraine and Georgia.



*Adriaan Roest Crollius*

Adriaan Roest Crollius is legal expert at NEA Transport research and training. His legal expertise field covers specifically: European transport legislation, international treaties, implementation mechanisms and the establishment of institutional structures.

The projects he works in focus mostly on: developing transport policy, transposing and implementing EU regulation and comparing institutional frameworks. He just finalized a EC research project what made an extended overview and comparison of the position of the railway institutions EU wide. The railway projects he worked, concentrated on strengthening of the institutional relation between the authority and the operator. The tasks include mostly a comparative analysis of the local and EU legislation and the drafting of amendments for the Railway Law. The international projects are mostly executed in the new EU countries and the bordering countries, like Ukraine, Bulgaria, Romania and Russia. Most recently he was project co-ordinator in a project for institutional support for the implementation of the Kosovo Dangerous Goods Law. This project included the institutional strengthening of the Ministry of Transport and a train the trainer programme.

*Robbert Lunsingh Scheurleer*

Robbert Lunsingh Scheurleer is a professional communication and training expert with experience in the management of projects and training programmes in particular. He started his career as Manager Planning and Course Organisation at the NEA University for professional education in transport, NTH, after which he broadened his working area to an international level. He has training experience in various countries such as Romania, the Netherlands, Lithuania, Georgia, Belgium and Iran. Robbert was project leader and training coordinator in an extensive road safety training program for the Iranian Ministry of Transport and training coordinator in the EU TRUMP program, aimed at mid-career transport professionals working in local/regional authorities and for public transport operators. Besides Robbert has acquired extensive experience in institution building in several European project. At present he is involved in a project to benchmark enforcement authorities in transport of dangerous goods within the European Union and the Traceca project Freight Forwarders training programme.

*Tatiana Eggert*

Ms Eggert is a Biologist and Ecologist. She holds a diploma in Marine and Freshwater Biology and Fishery Research. Her main fields of activity are investigation, analysis and assessment of environmental impacts, marine environmental protection and prevention of pollution. She has fifteen years of experience in marine ecology, environmental protection and practical adult training. During several expeditions on research vessels and scientific work at the University of Hamburg she gathered experience on working with international staff as well as training scientists and environmental technicians in biological investigations and environmental analysis. Presently, she conducts Environmental Impact Assessments as well as Strategic Environmental Impact Assessment investigations. Among others, she carried out environmental impact assessments for port planning projects in Baku (Azerbaijan), Poti and Batumi (Georgia). Further, she conceptualises, designs and conducts courses in marine environmental protection,





researches in environmental impacts in port and coastal areas.

### **3.9 Support facilities (back-stopping)**

The back stopping office will be located at the offices of NEA in the Netherlands, where support staff is available for project management and which will form an essential part of all organisation and execution of activities the project requires.

NEA will provide administrative, financial and secretarial staff, facilities for the study tours, etc. Activities will be organised and co-ordinated from the local project offices as much as possible.



## 4 TIMETABLE OF ACTIVITIES

### 4.1 Timing, sequence and duration

A brief summary of the timing and sequence of the activities is presented below. Table 4.2 presents a full overview of the tables and activities by means of a bar chart.:

**Phase 0: Inception**

Task 0: Inception period will take place over a period of 2 months from the start of the project

**Phase 1: Economic analysis of all possible schemes**

Task 1A: Analysis of the market for LPG products will take place over a period of 6 months from the start of the project

Task 1.2 Development of transport forecasting scenarios for LPG will take place over a period of 9 months

Task 1.3 Estimation of costs of LPG transport schemes will take place over a period of 17 months

**Phase 2: Integrated technical scheme for LPG Transportation**

Task 2A: Appraisal of existing transport facilities of LPG will take place over a period of 12 months from the start of the project

Task 2B Appraisal of the safety conditions for LPG transport will take place over a period of 12 months from the start of the project

**Phase 3: Study of the regulatory authorities**

Task 3A: Analysis of agreements and treaties will take place continually during the project period

Task 3B Review of dangerous goods legislation will take place continually during the project period

Task 3C Analysis of regulatory authorities will take place continually during the project period

**Phase 4: Finalisation**

Task 3A: Finalisation will take place during the last two months of the project duration



## 4.2 Reporting

The following reports will be produced during the course of the project, in line with the ToR:

- ❖ Inception Report: end of month 2.
- ❖ First Progress Report: End of Month 6
- ❖ Second Progress Report: End of Month 12
- ❖ Draft Final Report: End of Month 17
- ❖ Final Report: End of Month 18

The Final Report is revised version of the Draft Final Report, with the comments on the Draft Final Report from the beneficiary organisations and EU representatives incorporated.

Additional reports, and notes will be presented as described in our strategy in Chapter 3, and otherwise when necessary to achieve the project objectives. These include:

- ❖ Market Analysis Report
- ❖ Transport Forecast Report
- ❖ Transport Facilities Appraisal Report
- ❖ Safety Conditions Report
- ❖ Legal and Institutional Framework report
- ❖ Economic Appraisal Report

Reports will be produced simultaneously in English and Russian in the quantities, and distribution as specified in the ToR.

## 4.3 Timetable of activities

In Figure 4.1 the timetable of activities is presented, including the timing of the phases and tasks, as well as the key reports.



**Figure 4.1** Timetable of activities

Activity	Month																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Phase 0: Inception	█	█																
Phase 1: Economic analysis of all possible schemes																		
Task 1A		█	█	█	█	█	█	█										
Task 1B			█	█	█	█	█	█										
Task 1C							█	█	█	█	█	█	█	█	█	█	█	█
Phase 2: Integrated technical scheme for LPG Transportation																		
TASK 2A			█	█	█	█	█	█	█	█	█	█	█	█				
TASK 2B						█	█	█	█	█	█	█	█	█				
Phase 3: Study of the regulatory authorities																		
Task 3A		█	█	█	█	█												
Task 3B					█	█	█	█	█	█								
Task 3C			█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Phase 4: Finalisation																		
Inception report		█																
1st Progress report						█												
2nd Progress report												█						
Draft Final Report																	█	
Final Report																		█
Note: study tour		█																



## **Consultation events**

### *Multi-country seminars*

During the project three multi-country seminars will be organised:

- ❖ Multi-country seminar 1 to present project objectives and project approach
- ❖ Multi-country seminar 2 to presents results of traffic forecasting and technical appraisal
- ❖ Multi-country seminar 3 presents results of economic appraisal and legal and institutional review

### *In-country workshops*

During the project an estimated total of ten in-country workshops will be organised:

- ❖ A first series of five in-country workshops on traffic forecasting and technical appraisal
- ❖ A second series of five in-country workshops on economic appraisal and legal and institutional review

### *Dedicated field visits*

During a series of dedicated field visits specific subjects will be covered that are outside the range of the in-country workshops.

### *Study tours*

Two study tours are foreseen; one to Turkey and one to Western Europe, notably Germany and the Netherlands and Belgium, as outlined in section 3.3.6.

## **4.4 Expected number of working days for each category of expert**

Table 4.2 presents a breakdown per month and gives the amount of working days by each category of expert. It should be mentioned that the overview is similar as the overview included in the Financial Proposal, forming the basis for calculating the fee budget.



**Table 4.2** Estimated working days per month

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	Cumulative
<b>Key experts</b>																			
Arndt von Oertzen	18	15	15	12	15	12	12	15	15	10	10	10	8	8	8	15	10	8	216
Klaus Broersma	10	12	10	12	12	10	8	8	8	8	10	6	6	6	4	4	6	4	144
Menno Langeveld	10	12	6	10	10	10	6	6	6	6	10	6	6	10	8	6	10	6	144
Rauf Mammadov	20	18	18	18	18	15	15	15	15	20	20	15	18	18	18	18	18	18	315
Grigor Mutuashvili	20	18	18	18	18	15	15	15	15	20	20	15	18	18	18	18	18	18	315
Nurzhan Saginaev	20	18	18	18	18	15	15	15	15	20	20	15	18	18	18	18	18	18	315
<i>Sub-total</i>																			1.449
<b>Short-term experts</b>																			
International Experts	0	15	0	0	20	20	0	15	0	20	0	0	0	10	20	0	20	0	140
Local Experts	10	10	5	5	10	5	5	5	5	5	10	5	5	5	5	5	5	5	110
<i>Sub-total</i>																			250
<b>Grand total</b>																			1.699



#### 4.5 Ratio of working time

Table 4.3 presents an overview of the working time to be spent in the home office, at regional offices and missions in the region:

**Table 4.3** *Estimated working days per month*

	Nr of days at Home office	Nr of days on missions in the region	Total
<i>Long Term Experts</i>			
Team Leader	54	162	216
Key international experts	96	192	288
Key experts local	-	945	945
<i>Short term experts</i>			
Senior International experts	-	140	140
Senior local experts	-	110	110
Total	150	1,549	1,699
Percentage of total days	9	91	100

Remarks based on Table 4.3:

- ❖ On aggregate, 91 percent of the time of the total team of experts is spent in the region.
- ❖ It is expected that the bulk of the short-term expert time is spent in the region on specific site visits or workshops.
- ❖ The schedule is provisional and can be detailed during the Inception phase, in cooperation with the client.

#### 4.6 Draft schedule of missions to the region

Table 4.4 provides an overview of the provisional schedule of missions in the region.



**Table 4.4** *Provisional schedule of mission in the region*

Reference	Mission	Who	When	
Phase 0	Setting Up Project Offices	KEY1 KEY3	M1-M2	
	Discussion with project partners	KEY4 KEY5 KEY6		
	Multi country seminar	KEY1 KEY3 KEY4 KEY5 KEY6		
Phase 1	Fact finding Missions	KEY1 OTH	M1-M9	
	Country Workshops			
	Multi country seminar	KEY4 KEY5 KEY6		
	Study tour Turkey	KEY1		
Phase 2	Fact finding Missions	KEY2 OTH	M1-M12	
	Country Workshops			
	Multi country seminar	KEY4 KEY5 KEY6		M11
	Study Tour Germany	KEY 2		
Phase 3	Fact finding Missions	KEY3 OTH	M1-M18	
	Country Workshops	KEY3		M1-M18
	Multi country seminar	KEY 1 KEY3 KEY4 KEY5 KEY6		M1-M18
Final Phase	Multi country seminar	KEY1 KEY2 KEY3 KEY4 KEY5 KEY6	M17	
General: Project management	Inception Report Progress Reports Final Reports	KEY1 KEY3 KEY4 KEY5 KEY6	M1-M18	

KEY1 = Team leader  
KEY2 = Engineer and Operations Expert  
KEY3 = Legal and Environmental expert  
KEY4 = Local coordinator Poti  
KEY5 = Local coordinator Baku  
KEY6 = Local coordinator Aktau  
OTH = Other experts

Remarks based on Table 4.4:

- ❖ The presented schedule is provisional; during the Inception phase the planning will be further detailed, in close co-operation with the client.
- ❖ Besides these planned visits, additional visits may be added if needed and productive.
- ❖ The exact staffing of the missions is to be precised during the Inception phase. The team leader and the training and project coordinator are to play a central role.





5 LOGFRAME

	Intervention logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions
<b>Overall objectives</b>	<p>The introduction of an alternative, economic and modern transport scheme of LPG in the region, which will minimize existing high transportation costs and improve safety in handling procedures of dangerous goods but not limited to LPG only, which could:</p> <ul style="list-style-type: none"> <li>attract further investments in the region in the transport as well as in the oil and chemical industry;</li> <li>Terms of reference</li> <li>stimulate interest from oil companies to Increase LPG production, which is currently at very low levels, since existing high costs of transportation will be minimized;</li> <li>create additional sources of income for countries involved, through the increase in LPG production and through additional transport and transit market opportunities;</li> <li>promote the use of an alternative, environmentally friendly clean fuel for both final consumers and industrial customers;</li> <li>expand the scope of the INOGATE and TRACECA projects to include an additional and potentially very profitable market, namely LPG.</li> </ul>	<ul style="list-style-type: none"> <li>Transportation costs of LPG and other gaseous products</li> <li>Safety record in transportation</li> <li>Relative increase of transport in TRACECA region</li> </ul>	<ul style="list-style-type: none"> <li>Freight forwarders, market prices</li> <li>Transport Safety statistics at National Bureaus of Statistics</li> <li>Transport and Trade statistics</li> </ul>	
<b>Project purpose</b>	<p>To deliver a feasibility study which includes the technical, economic, financial, environmental and legal/institutional appraisal for the transport of LPG through the TRACECA corridor.</p>	<ul style="list-style-type: none"> <li>The project's appraisal as part of the feasibility study with separate volumes on economic, financial, environmental and legal/institutional aspects</li> </ul>	<ul style="list-style-type: none"> <li>(draft) Final Report</li> </ul>	<ul style="list-style-type: none"> <li>The economic and financial impact of the project is positive, as it will lead to more efficient exploitation of hydrocarbon natural resources in Central Asia, by lowering unit costs for transport, increasing return on capital investment, and creating jobs for the local economy.</li> <li>The overall environmental impact is positive, as oil drillers should be motivated to re-inject rather than flare natural gas, as a marketable means of transport of LPG can justify the cost of re-injection. LPG is a dispersible gas, inert and not environmentally harmful.</li> <li>The project has full cooperation and commitment of all major project partners involved.</li> </ul>



	Intervention logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions
<b>Results</b>	<p>1. <b>An economic analysis of all possible schemes and modes of transportation of LPG in the region, with calculations and recommendations on the operational costs and capital investments</b></p> <p>2. <b>The presentation of a completely integrated technical scheme for LPG transportation.</b></p> <p>This will include:</p> <ul style="list-style-type: none"> <li>• means of storage and loading in Aktau and/or Kuryk (Yeralievo), Kazakhstan</li> <li>• means of storage and loading in Turkmenbashi or Okarem, Turkmenistan</li> <li>• optimal means of transportation across the Caspian,</li> <li>• means of storage and transshipment of LPG in Azerbaijan,</li> <li>• gas rail car transport of the LPG to end-users and/or to the port of Poti and/or Batumi via Azerbaijan,</li> <li>• means of storage and loading of LPG in Poti and/or Batumi,</li> <li>• optimal construction program in Ukraine (Yuzhny, Iljichevsk, Odessa).</li> </ul> <p>3. <b>A study of the regulatory authorities and their conformity with international and UN standards for the storage and transportation of LPG and chemicals.</b></p> <p>This implies the harmonisation of legislation and procedures along the lines of United Nations and European Directives.</p>	<ul style="list-style-type: none"> <li>• Traffic analysis and forecast</li> <li>• Scenario analysis on traffic development</li> <li>• Assessment of costs and benefits</li> <li>• Economic appraisal</li> </ul> <ul style="list-style-type: none"> <li>• Analysis of storage and loading facilities</li> <li>• Analysis of optimal transportation means for different modes of transport</li> <li>•</li> </ul> <ul style="list-style-type: none"> <li>• Description of international standards</li> <li>• Gap analysis reports and gap plugging report on conformity of role of authorities</li> </ul>	<ul style="list-style-type: none"> <li>• Working paper</li> <li>• Working paper</li> </ul> <ul style="list-style-type: none"> <li>• Working paper</li> <li>• (draft) Final Report</li> </ul> <ul style="list-style-type: none"> <li>• Working paper</li> <li>• (draft) Final Report</li> </ul> <ul style="list-style-type: none"> <li>• Working papers</li> <li>• Working papers</li> </ul>	<ul style="list-style-type: none"> <li>• A common understanding on the need for a fast implementation of the necessary investments.</li> <li>• A good insight in costs and benefits related to the transportation of LPG in the region with a basic amount of relevant data accessible</li> <li>• Basic data availability as input for economic and financial analysis</li> </ul> <ul style="list-style-type: none"> <li>• Access to insight in current and future development plans for infrastructure and superstructure</li> <li>• Access to insight in storage and loading development plans</li> <li>• The environmental implications of the required changes can be dealt with properly</li> </ul> <ul style="list-style-type: none"> <li>• A high level of coordination and cooperation, which is required from the competent authorities within the beneficiary countries towards the creation of an integrated multimodal transport system can be attained</li> <li>• Proposed regulations are supported and adopted by national governments</li> <li>• The changes in regulation have a direct positive impact on transport harmonisation</li> <li>• The international regulation is stable</li> </ul>



	Intervention logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions
<b>Activities</b>	<p><b>Result 1: Economic analysis of all possible schemes and modes of transportation of LPG in the region</b></p> <ul style="list-style-type: none"> <li>TASK 1A: Analysis of market for LPG products</li> <li>TASK 1B: Development of transport forecasting scenarios</li> <li>TASK 1C: Analysis of project appraisal</li> </ul> <p><b>Result 2: Presentation of a completely integrated technical scheme for LPG transportation</b></p> <ul style="list-style-type: none"> <li>TASK 2A: Appraisal of existing transport facilities of LPG</li> <li>TASK 2B: Appraisal of the safety conditions for LPG transport</li> </ul> <p><b>Results 3: Study of the regulatory authorities and their conformity with international and UN standards</b></p> <ul style="list-style-type: none"> <li>TASK 3A: Analysis of agreements and treaties</li> <li>TASK 3B: Review and harmonisation of dangerous goods legislation</li> <li>TASK 3C: Selection and Development of training measures</li> <li>TASK 3D: Analysis of regulatory authorities</li> </ul>	<p>Input and costs:</p> <p>Long-term international experts:</p> <ul style="list-style-type: none"> <li>Team leader: 216 days</li> <li>Senior experts: 288 days</li> </ul> <p>Long term local experts: 945 days</p> <p>Short-term international experts:</p> <ul style="list-style-type: none"> <li>Senior experts: 140 days</li> </ul> <p>Short-term local experts:</p> <ul style="list-style-type: none"> <li>Senior experts: 110 days</li> </ul> <p>Incidental expenditures on:</p> <ul style="list-style-type: none"> <li>Travel costs and subsistence allowances for missions to be undertaken from the bases of operations in the beneficiary countries</li> <li>Financing of the operational costs of the regional offices</li> <li>Subsistence allowances for expert missions in the region, including workshops and seminars</li> </ul>	<ul style="list-style-type: none"> <li>Proposal, contract and progress reports</li> <li>Proposal, contract and progress reports</li> <li>Proposal, contract and progress reports</li> </ul>	<ul style="list-style-type: none"> <li>Relevant institutes and bodies are providing inputs on costs and benefits</li> <li>Full support and commitment from relevant parties in the logistic chain</li> <li>Full co-operation, support and commitment from regulatory authorities</li> <li>Availability of agreements, treaties and legislation</li> </ul>



### **Section 3**

Key Experts

CV's



Name of Expert	Proposed position	Years of experience	Age	Nationality	Educational background	Specialist areas of knowledge	Experience in beneficiary countries	Languages and degree of fluency (VG, G, W)
Arndt Heinrich von Oertzen	Team Leader/Transport economist:	23	49	German	University Economics	<ul style="list-style-type: none"> <li>• Investment appraisal</li> <li>• Traffic forecast</li> <li>• Energy: oil and LPG</li> <li>• Dangerous goods</li> </ul>	Azerbaijan Ukraine Georgia Kazakhstan	English VG Russian G German VG
Klaus Broersma	Task Leader Engineering and Operations	42	68	Dutch	University Civil Engineering	<ul style="list-style-type: none"> <li>• Infrastructure</li> <li>• All modes of transport</li> <li>• Operations</li> <li>• Feasibility studies</li> </ul>	Azerbaijan Georgia	English VG Russian W
Menno Langeveld	Task Leader Legal and Environmental Matters	15	42	Dutch	University Law and Economic Geography	<ul style="list-style-type: none"> <li>• Legal review</li> <li>• Environmental issues</li> <li>• Institutional aspects</li> <li>• Dangerous goods, including ADR</li> </ul>	Azerbaijan Ukraine Georgia Kazakhstan	English VG Russian W German G Spanish G
Mammadov Rauf	Local Coordinator Baku	18	41	Azeri	University Engineering	<ul style="list-style-type: none"> <li>• Forwarding</li> <li>• ADR</li> </ul>	Azerbaijan Turkmenistan	English G Russian VG



Grigor Matuashvili	Local Coordinator Poti	10	29	Georgian	University Economics	dangerous goods transport	Georgia	Azeri VG
						<ul style="list-style-type: none"> <li>• Energy sector</li> <li>• Forwarding</li> <li>• ADR</li> </ul>	Kazakhstan	Turkish VG
Nurzhan Saginaev	Local Coordinator Aktau	19	41	Kazakh	University Engineering	dangerous goods transport	Azerbaijan	English G
						<ul style="list-style-type: none"> <li>• Energy sector</li> <li>• Forwarding</li> <li>• ADR</li> </ul>	Ukraine	Russian VG
						dangerous goods transport	Georgia	Georgian VG
						<ul style="list-style-type: none"> <li>• Energy sector</li> <li>• Forwarding</li> <li>• ADR</li> </ul>	Kazakhstan	English G Russian VG
						dangerous goods transport		
						<ul style="list-style-type: none"> <li>• Energy sector</li> </ul>		



**CURRICULUM VITAE**

**Proposed position in the programme:** Team Leader and Transport Economist

**1. Family name:** von Oertzen

**2. First names:** Arndt Heinrich

**3. Date of birth:** April 04, 1956

**4. Nationality:** German

**5. Civil status:** Married, 4 children

**6. Education:**

<b>Institution</b>	Bayerische Vereinsbank
<b>Date</b>	1975 – 1977
<b>Degree(s) or Diploma(s) obtained</b>	Bank manager degree (Bankkaufmann)
<b>Institution</b>	Ludwig Maximilian Universität
<b>Date</b>	1978-1983
<b>Degree(s) or Diploma(s) obtained</b>	Business economist diploma (Diplomkaufmann)

**7. Language skills:** (from 1 = excellent to 5 = very poor)

<b>Language</b>	<b>Reading</b>	<b>Speaking</b>	<b>Writing</b>
German	Mother Tongue		
English	1	1	1
Russian	3	1	4

**8. Membership of professional bodies:**

**9. Other skills:** Literacy in all standard computer applications (MS Office)

**10. Present position:** Senior consultant for logistics, trading, legal and management issues for various European and Russian companies

**11. Years within the firm:** 8

**12. Key qualifications: (Relevant to the programme)**

Arndt Heinrich von Oertzen is an economist with more than 15 years comprehensive practical experience in CIS logistics and transport matters. He has been responsible for management, training and education of transport teams throughout the CIS for oil and gas, and the successful development and implementation of complex intermodal transport chains by truck, rail, vessel and terminals for oil and gas. As a team leader he has general management responsibility for transport profit centres to up to 20 persons since 1990. He also has comprehensive and applicable knowledge on issues concerning intermodal transport; relevant studies on traffic forecast for oil products and extensive shipping expertise in CIS countries as well as other countries.

Mr von Oertzen has strong editorial, language and communication skills in German and English, combined with a working knowledge of Russian.

**13. Specific experience in the region (local presence up to 240 days p.a.) :**

Country	Date:
Belorussia	1999-2005 : Oil transports by rail
Georgia	1993-2005 : Oil transports and terminalling by rail
Kasachstan	1999-2003 : Transports by rail
Azerbeijan	1993-2005 : Transports by rail/vessel
Russian Federation	1990-today : Transports by rail/vessel/truck/terminalling
Ukraine	1998-today : Transports by rail/terminalling
Multi Country	Caspian Sea/USA/South Africa/Australia/West-/Eastern Europe



**14. Professional Experience Record:**

Date from – to	Location	Company	Position	Description
2004- 2005-	Hamburg	ASG HAMBURG EXPORT GMBH	Consultant	- Execution of Logistics/Trading/Contracts/Sales
2004-	Moskau	Kolmogorowskaya Coal Mine Kusbass	Consultant	- Execution of Logistics/Trading/Contracts/Sales
2004-	London	Victoria Oil and Gas PTY.LTD	Consultant	- Transaction adviser
2004-	Moskau	OOO Trans-Nafta	Consultant	- Transaction adviser
2005-	Hamburg	Select Energy GmbH	Consultant	- Execution of Logistics/Trading/Contracts/Sales
1998-2005	Hamburg	Select Energy GmbH International Oil-Trading and Transport	Director	- Responsible for sourcing with Russian, small-to-medium-sized crude oil producers including permanent local business control and respective extensive travelling within the CIS. - Building-up, implementation and controlling of producers advance financings and transportation schemes to Europe. - Team leader for the transport units - Implementation of capital investment projects. - Company sales volume: 500 Mio. €
1992 – 1998	Hamburg	Delta Oil Trading GmbH Petrocom Trading GmbH	Director	- International Oil-Trading, active shareholder. Building-up of oil-trading and transport on the Volga river - Operational management jointly with the managing director. Purchase and operation of tankers on the Volga. - Implementation of capital investment projects. - Director of organizational unit with: individual “procura” and responsibility for trading and transport in the Med.-Sea-area and sourcing in the CIS. - Responsible for sales transactions of about 35 Mio €. - Planning and implementation of restructurings. - Director of the local Russian offices with about 30 employees
1991 – 1992	Hamburg	Select Energy Trading GmbH, International Oil-Trading	Trader	- Restart of trading with the former Soviet Union, building-up and handling of compensation, i.e., countertrade deals. Company sales volume 100 Mio €
1983-1991	Hamburg	Krupp Handel GmbH International Coal-Trading and Transport	Manager	- Trading in the European sales markets, purchase in South Africa, Australia, Columbia - Stock-/manufacturing-development and management of period-time charter ships. - Restart of purchases in “CIS”-countries. Commercial authority, holder of “procuration” - Responsible for risk- and transport management for purchase volumes of 50 Mio. €.
1983 – 1985	Hamburg	Krupp Handel GmbH, International Coal-Trading and Transport	Trainee	- Johannesburg, Sydney, Norfolk/Virginia: orientation and building-up of new producer connections/purchasing sources

## CURRICULUM VITAE

**Proposed position in the program:** Task Leader Engineering and Operations

**1. Family name:** Broersma

**2. First names:** Klaus

**3. Date of birth:** 1938, December 2

**4. Nationality:** Netherlands

**5. Civil status:** Married

**6. Education:**

Institution	Technological University Delft (TUD), The Netherlands
Date	1963
Degree(s) or Diploma(s) obtained	M.Sc. Civil Engineering,; Main subjects: Transport Planning & Traffic Engineering; Irrigation & Hydraulic Power Generation.
Institution	TUD, Netherlands
Date	1965
Degree(s) or Diploma(s) obtained	<i>Post-graduate course</i> Statistics & Probability Theory
Institution	PTRC, UK
Date	1967 & 1973
Degree(s) or Diploma(s) obtained	<i>Post-graduate course</i> Transportation Planning and Computer Modelling practice (applications in both western and developing countries),
Institution	DHV Int, Netherlands
Date	1983
Degree(s) or Diploma(s) obtained	<i>Post-graduate course</i> Training for Trainers
Institution	Imperial College, London, UK
Date	2002
Degree(s) or Diploma(s) obtained	<i>Post-graduate course</i> Climate Change - Science, Impacts & Policy Responses

**7. Language skills:** Indicate competence on a scale of 1 to 5 (1 - excellent; 5 - basic)

Language	Reading	Speaking	Writing
Dutch	Mother Tongue		
English	1	2	2
German	1	2	2
French	2	4	3
Russian	3	3	3
Portuguese/Spanish	5	5	5
Indonesian	5	5	5

**8. Membership of professional bodies:**

**9. Other skills:**(e.g. Computer literacy, etc.)

**10. Present position:** Independent Consultant

**11. Years within the firm:** n.a.

**12. Key qualifications:**

Klaus Broersma, with a M.Sc. in Civil Engineering, has a very extensive track-record in transport engineering and operations projects that has been built up in a close to forty years career. Mr Broersma covers a variety of modes of transport, i.e. roads, rail, air, IWT and maritime transport. He has working experience in the region, i.e. through projects in the Russian Federation, Bulgaria, Romania, Albania, Kosovo, Slovenia and Armenia, Azerbaijan and Georgia. Through his presence in the region, Mr Broersma has developed basic Russian communication skills, besides his excellent English communication skills.

Activities include technical and economic feasibility studies for infrastructure development in road, rail and ports. Also, Mr Broersma has vast experience in transport operations, again in the relevant modes for this project, i.e. road, rail and maritime transport. As one of the main education subjects transport planning & traffic engineering has been a specific area of expertise. With the combination of technical and economic experience, Mr Broersma is capable of providing valuable input in economic analysis through extensive knowledge of traffic flows, cost estimates and benefits. Mr Broersma in his position as engineering expert in transport policy development projects (e.g. in Bulgaria in 2003) has dealt with transport and requirements of dangerous goods.

**13. Specific experience in the region:**

Country	Date from - Date to
Russian Federation:	December 2003 – June 2005
Bulgaria	January 2003-November 2004
Kosovo	June 2005 & November 2004
Albania	July 2003 & March 2002
Poland	2000-2001
Romania	2000
Russian Federation	1997- 2000
Slovenia	1998-1999 1996-1997
Russian Federation	1995-1997
Armenia, Azerbaijan and Georgia	1995-1996

**14. Professional experience-selected references**

Date from - Date to	Location	Client	Description
2003 –2005	Russia	World Bank	Training Programme in Urban Public Transport Reform in ECA/Russian Federation, World Bank Trust Fund - Netherlands Transport and Infrastructure TF-050195: Training of trainers of (4) RF academic institutions servicing medium-sized cities in staff development concerning urban (public) transport reform and developing distance learning website <a href="http://www.ptr-dlp.ru">www.ptr-dlp.ru</a>
2003 –2005	Russia, Bulgaria	Senter	Two projects in (i) St. Petersburg (RF): Development of Transport Logistic Services for the North-West Region, and (ii) Bulgaria: Development of National Integrated Transport Policy / Plan.
2000-2001	Poland	EBRD	Transport Policy expert on Krakow Urban Transport Project: Revision of urban transport policy, introduction of comprehensive traffic management, city centre parking management and area traffic control scheme, Fast tram and Duo-mode (light rail) network development, EBRD-funded.

Date from - Date to	Location	Client	Description
2000	Bangladesh	ADB	Preparation of Transport Sector Analysis report, Long term Transport Structure Plan, recommended priority investment plan for road rehabilitation and maintenance, feeder road extensions and local rural roads, trails, paths development with participatory communities approach; as well as recommended approach of telecommunications and rural electrification development for the CHT region.
2000	Romania	NMCP/PU M	Business Plan preparation for private sector road transport services company: international & domestic freight transport; vehicle inspection & repair facilities; warehousing & cold storage.
1997- 2000		European Commission -TACIS	Russian Federation: Project Manager EU/TACIS-funded project: "Road Transport Development"
1997/98	Egypt	SENER (Netherlands Ministry of Economic Affairs).	Project Coordinator "North-East Egypt Transport Development Strategy" concerning container transshipment potential of Damietta (efficiency improvements and capacity extension) and Port Said (West) Ports and Container Terminals; and pre-feasibility studies of a new Port Said East Bank (multi-purpose) Seaport and Economic Zone development connected with Sinai settlement promotion.
1995-1996	Caucasian Republics	European Commission -TACIS -	"Improvement Road Transport Services (Caucasian Republics: TRACECA)" with main subjects areas: <ul style="list-style-type: none"> <li>• Inventory of potential international road cargo carriers in the Republics of Armenia, Azerbaijan and Georgia and the constraints hampering their (early) entry to the international road haulage market</li> <li>• Identification of possible 'joint venture' operations between Caucasian and European road transport enterprises</li> <li>• Development of 'Business Plans' for international road cargo transport Operations, and related automotive (repair &amp; maintenance and other supporting services) Providers</li> <li>• Improvement of the 'institutional &amp; legal environment' regulating and supervising the road cargo transport sector.</li> </ul>

#### 15. Other relevant information (eg, Publications)

##### Publications:

- 1982 "The Egypt National Transport Study" (jointly with W. van Harreveld), P.T.R.C. Summer Course (Proceedings, English)
- 1986 Gadallah, "CODATU-3", Conference on Urban Transport in Developing countries, Cairo/ Egypt (English)
- 1986 "Egypt Transport Studies 1979-81 & 1983-84", Bi-annual "African Road Conference I.R.F", Cairo/ Egypt (English)
- 1993 "A Transport Structure Plan" (29 November 1993; Background paper, Ref. page 130 of World Development Report 1994 on "Infrastructure for Development".
- 1996 "Sustainable Mobility Concept of the European Union: What might it mean for Slovenia?" - Proceedings of the 3rd Slovenian Road Congress (13-15 November 1996, Bled)
- 1998 "Light Rail Opportunities in Russian Cities" - Session5 - UITP Conference in Zurich (15-18 September 1998)
- 1999 "Problems of urban passenger transport in Russia - A foreigner's observations" - Journal of Russian Road Transport Associations "Russki Yamshik" (No.2, June 1999).

**CURRICULUM VITAE**

**Proposed position in the program:** Task Leader Legal and Environmental Matters

- 1. Family name** : Langeveld
- 2. First names** : Menno Rinze
- 3. Date of birth** : 20-08-1963
- 4. Nationality** : Netherlands
- 5. Civil Status** : Married

**6. Education** :

<b>Institution</b>	University of Utrecht, the Netherlands
<b>Date</b>	1988 – 1993
<b>Degree(s) or Diploma(s) obtained</b>	University Degree Law
<b>Institution</b>	University of Utrecht, the Netherlands
<b>Date</b>	1987 – 1991
<b>Degree(s) or Diploma(s) obtained</b>	University Degree Economic Geography
<b>Institution</b>	Autonomous University of Barcelona, Spain
<b>Date</b>	1990 – 1991, thesis on EDI in banking sector of Barcelona (Spain)
<b>Institution</b>	Free University of Amsterdam
<b>Date</b>	1996
<b>Degree(s) or Diploma(s) obtained</b>	University Trainer Programme This programme represents the highest level of trainer education available in the Netherlands

**7. Language skills (from 1 = excellent to 5 = very poor) :**

<b>Language</b>	<b>Reading</b>	<b>Speaking</b>	<b>Writing</b>
Dutch	Mother tongue		
English	1	1	1
German	2	2	3
Spanish	3	3	4
Russian	4	4	5

**8. Membership of Professional Bodies:** Netherlands Association of International Law

- 9. Other skills** : Computer literacy, Word for Windows etc
- 10. Present position** : Senior Legal Consultant to NEA Transport research and training
- 11. Years with the firm** : 7 years

**12. Key qualifications:**

Menno Langeveld is a legal expert and geographer with extensive international experience in International Law and Transport Law. He has been lecturer in International Law/Maritime Law at the Royal Netherlands Naval Institute and worked as legal expert in many World Bank, ADB and European Commission (EC) transport projects, e.g. the TRACECA "International Road Transport Facilitation" and TRACECA "Harmonisation of Border Crossing Procedures" projects.

Mr. Langeveld reviewed transport legislation in many countries, analysed legal rules, regulations and governmental policies, e.g. regarding the development of logistics centres in St Petersburg, and reviewed transport, customs and related legislation in Kazakhstan. For the EC he analysed the relation between transport and the environment and he was involved in several projects related to the transport of dangerous goods. Furthermore he drafted a Law on Roads and a Law on Road Transport in Kosovo, a Law on Freight Forwarding in Kazakhstan, a Water Transport Law in China and maritime transport legislation in Lebanon.

Until recently Mr Langeveld worked in a EU Research Project that focused on the possibilities of creating new EU legislation for the freight forwarding and intermodal transport sector. Besides that he is working for the ADB in Pakistan to develop a model Border Crossing Facilitation with Afghanistan.

Mr Langeveld has strong editorial, language and communication skills in Dutch and English, combined with a working knowledge of Spanish, French, German and a little Russian.

**13. Specific Countries experience:**

Country	Date:
Turkey	2004
Pakistan	2005
Russia	2004
Azerbaijan	2002/2003
Lebanon	2004/2005
Georgia	2003
Tajikistan	2002
Kosovo	2002/2003
Kazakhstan	2000/2001/2002/2004
Romania	2000
Uzbekistan	2000/2002/2004
Albania,	1999/2000/2002
China	1999, 2001
Macedonia	1999/2000
Lithuania	2001
Hungary	1999/2000
Ukraine	1999
Bulgaria	1999/2001/2002/2003
Slovenia	1998

**14. Professional experience record (of relevant projects):**

2004 - 2006	Pakistan Cross Border Facility and Efficient Transit Facilitation; Analysis of agreements, analysis of institutional and legal framework for border crossing; Legal expert
2004 - 2006	Lebanon Restructuring of the Land and Maritime Sectors; Review of transport legislation, including transport of dangerous goods/LPG and drafting of new legislation; Legal Expert
2004 - 2004	Russia SENTER Strategic Identification of the establishment of Logistics Centres and the Development of a Regional Distribution Council in North West Russia; Analysis of legal rules and regulations and governmental policies regarding development of logistics centres; Legal Expert
2003 - 2005	EU TRACECA Capacity Development for Senior Transport Sector Officials; Training on Ports and Customs; Legal expert
2003	EC DG Environment Decoupling of transport and environment Advisory services on the inventory of EU policy/legislation that initiates undesirable transport demand and harmful effects to the environment Legal expert
2002 - 2003	TRACECA countries TRACECA Harmonisation of Border Crossing Procedures; Legal assistance on international conventions, and Trade and Transport Facilitation; Customs and Legal Expert
2002 - 2003	Kosovo Review of the road legislation (roads/road traffic/road transport/transport of dangerous goods) for the benefit of UNMIK Ministry of Transport and Communications Drafting a Law on Roads (adopted June 2003) Drafting a Law on Road Transport Legal Expert
2002 -	Tajikistan, Uzbekistan World Bank Trade and Transport Facilitation Audit (TTFA) in Central Asia; Executing a TTFA in Tajikistan and Uzbekistan; Legal Expert
2001 - 2002	Bulgaria ; Technical assistance on Combined Transport and Port Issues; and project management activities ; Legal Expert
2001 - 2002	Tanzania World Bank Liberalisation and Privatisation of Tanzanian Maritime sector; Legal due diligence of Ports assets and review of the existing port legislation; Legal Expert
2000 - 2002	Republic of Kazakhstan TACIS Support to the development of a transit corridor policy in the Republic of Kazakhstan; Review of transport, customs and transport related legislation like transport of dangerous goods including LPG. Advice on improvements to the transport, customs and transport related legislation. Drafting a Law on Combined Transport in co-operation with railways of Kazakhstan ; Legal Expert
1999 - 2001	TRACECA-countries (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan) TRACECA International Road Transport Facilitation; Writing legal reports of all TRACECA countries concerning TIR and system of access to the profession in road transport; Legal Expert
1998 - 2000	Lithuania SENTER Harmonisation in Transport Phase II; Legal advice on harmonisation of transport legislation with EU transport acquis; Legal Expert
1999 - 2001	Albania, Bosnia Herzegovina, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia FYRO, Poland, Romania, Slovak Republic and Slovenia PHARE Vocational Training Centres in Road Transport; Preparing a blueprint for legal issues concerning the Certificate of Professional Competence (CPC); Legal Expert
1999 - 2000	Hungary EU Approximation in Road Transport; Comparing EU transport legislation on 4 specific subjects with Hungarian legislation and advice on improvements; Legal Expert

**CURRICULUM VITAE****Proposed position in the programme:** Local Coordinator Baku**1. Family name:** Mammadov Rauf**2. First names:** Soltan**3. Date of birth:****4. Nationality:** Azerbaijan**5. Civil status:****6. Education:**

<b>Institution</b>	Dnepropetrovsk (Ukraine) University,
<b>Date</b>	1981-1986:
<b>Degree(s) or Diploma(s) obtained</b>	specialty of radio-physic; translator-interpreter English-Russian;
<b>Institution</b>	Azerbaijan State Institute of Physic of Academy of Sciences;
<b>Date</b>	1986-1987
<b>Degree(s) or Diploma(s) obtained</b>	

**7. Language skills:** (from 1 = excellent to 5 = very poor)

<b>Language</b>	<b>Reading</b>	<b>Speaking</b>	<b>Writing</b>
Russian	Mother Tongue		
English	1	1	1
Azeri	1	1	1
Turkish	1	1	1

**8. Membership of professional bodies:****9. Other skills:** Computer skills**10. Present position:** Operational Director, Murphy Shipping & Commercial Services JV Ltd**11. Years within the firm:** 10**12. Key qualifications: (Relevant to the programme)**

Mr Mammadov is an engineer and works presently as freight forwarder in Baku. He has more than 10 years experience in the sphere of dangerous goods transportation; excellent knowledge of ADR requirements and national legal and regulatory framework in the sphere of dangerous goods transportation, and specifically for the energy sector in the Caspian. He has got developed skills in project management, contracts, cost control, marketing, recruitment, managing people and project implementation specific to Warehouse Management Systems. Mr Mammadov is fluent in Russian, Azeri, English and Turkish language.

**13. Specific experience in the region (local presence up to 240 days p.a.) :**

<b>Country</b>	<b>Date:</b>
Azerbaijan	constant
Turkmenistan	2003,2005
Georgia	2001, 2002,2004
Kazakhstan	2000



**14. Professional Experience Record:**

**BP Exploration 2005 November**

Very recent contract been signed for transportation of Sumitomo pipes from Far-East to Azerbaijan

**Petronas Carigali Turkmenistan , 2005 August, Vetco Gray**

Murphy handled 2 large air freight shipment for Petronas export of BOP items 5,500kgs from Turkmenistan to Singapore and back to Turkmenistan.

**SBM/ Single Buoy Mooring, 2005 August, Petronas Turkmenistan.**

Murphy handled 450 tons chain shipment for SBM from Shanghai to Baku.

**Saipem Azerbaijan Spa, 2004, BP ACG Project**

Urgent needs of 3 wire reels each weight, 25 tons with dimensions 2.5 2.45 x 2.35m have been air chartered using AN-124 air plane from Singapore to Baku for Saipem.

**Great Wall Drilling Company, 2004**

Murphy Shipping is awarded a contract transportation of Land Rig belonging to Chinese company from Ali Bayramli to Georgia to drill for British-Georgia Oil Company. This estimated to be 70 wagon loads and Murphy involving is to load wagons and arrange transportation to Tbilisi, Georgia rail station. As soon as wagons arrive to Georgian Rail Station, our scope of work also includes discharging from wagons and deliver to site in Georgia.

**Consolidated Contractor International, 2004, BTC Pipeline Project Company LLC.**

Murphy Shipping is General Freight Forwarder for CCIC under BTC Crude Oil Pipeline Project as well as SCP Gas Pipeline Project. On day to day we involve on their all heavy loads movements.

**Momentum Engineering and Drilling, 2004, Karasu Operation Co**

Murphy Shipping arranged Momentum Second Onshore Land Rig from Jebel Ali to Ali Bayramli. This shipment was shipped via Bandar Abbas, Iran and currently shipment on way to Ali Bayramli. Total number of trucks estimated to be 130 truck loads including low-beds for heavy/oversize units. Multimodal freight organized; Sea freight from Dubai to Bandar Abbas and inland haulage to Ali Bayramli.

**Momentum Engineering and Drilling, 2004, Karasu Operating Company**

Murphy Shipping arranged SK-17 Onshore Mobile Drilling Rig transportation from Gabon, Port Gentle to Ali Bayramli. Full charter vessel chartered to take rig from Gabon to Poti. Discharging of vessel in Poti arranged by own Murphy office in Poti and rail freight to Ali Bayramli rail station. 35 rail wagons with rig arrived to Ali Bayramli rail station and we have arranged offloading rail cars and delivering equipment over to mountain to nominated drilling site. Shipment were included oversize out gauge units.

**Hannover Houston, 2003, Buren Energy Turkmenistan,**

Murphy Shipping arranged a transportation of 2 large gas compressors and skids from Houston to Balkanabat, Turkmenistan for Buren onshore US Oil Company. Each compressors weighted 48 tons and Length:-8 m x Width:-3.5, Height:- 3.9 meters have been shipped from Houston and arrived to Turkmenbashi port, Turkmenistan. MSCS arranged offloading units from vessel, delivered to Buren site in Balkanabat and offloaded at site.

**Euro Grit Holland, 2003, Consolidated Contractor International Company for BTC Pipeline Project.**

4000 tons of grit have been transported from Rotterdam, Holland to Baku. They have been discharged in Baku Sea port and distributed to all areas of camps or dump station through pipeline.

**Moller Supply Services**

**Varco/ Shafter Houston, 2003, Maersk-Contractor / DSS 20**

The Large pieces as well as BOP items and drill pipes have been shipped on chartered vessel from Houston to Poti and then rail freighted to Baku. Murphy Houston arranged to picking up the equipment and drill pipes from facility of Varco/Shafter and Moller Supply Services within Texas.

**Exxon-Mobil Baku, 2003, Zafar Mashal, Sumitoma Pipe and Dril-Quip , DSS-20 Rig**

Murphy Shipping have arranged transportation of 1500 tons of casing and 15 flat racks of various drilling equipment from Houston to Baku for Exxon-Mobil drilling campaign in Zafar Mashal field. The shipment have been packed by Murphy office in Houston and ship by break bulk vessel to Poti.

**MI Drilling Fluids Limited, 2003, BP Chirag**

Due to urgency of lao-drilling mud for drilling campaign under Chrig flied, by order of Azeri MI Drilling Fluids limited. Murphy Shipping arranged 5 x AN 124 air craft from Ostend to Baku Bina Airport. Each aircraft have taken 5 x 20' ISO Tanks containers of fluids delivered from Antwerp to Ostend and then loaded onto airplanes.

**Local Movement. Hyatt Tower, 2002, Eaoc LLC**

Murphy Shipping with their professional packers arranged movement/relocation of Exxon-Mobil employees apartment from Hyatt Tower to Hyatt Villages. The approximately 400-500 m3 volume of various house hold belonging and furniture moved from one location to another.

**Dril-Quip, 2002, Eaoc LLC**

Once the Nakhchivan drilling campaign finished, Eaoc LLC have started to moving out of Dril Quip rented equipment back to Housto and Aberdeen. 150 tons of equipment to go back to partially Houston and Aberdeen.

**Houston Consol, 2001, Eaoc LLC**

Murphy Shipping arranged a chartered plane from Luxembourg to Baku with the various vendors drilling equipment from Houston. Whole shipment 20 tons have shipped from Houston to Luxembourg on usual air cargo and due to urgency we have position IL-76 air plane and taken them to Baku.

**MI Drilling Fluid, 2001, Eaoc LLC**

Murphy Shipping arranged 2 x AN-124 chartered air planes from Ostend to Baku with the 10 x 20' ISO Tank Container of Drilling Fluids and MI Lao Base.

**Keppel Fels Projects, 2001, Maersk Contractors /For DSS-20**

Murphy Shipping and Commercial Services awarded a contract by Keppel Fels Singapore to move semi-submersible drilling rig under contract no: 210063233-OH, which is to be erected by Keppel Dels Singapore at Baku, Azerbaijan

**National Oilwell/Varco Equipment, 2002, Maersk-Contractors**

Murphy Shipping & Commercial Services London office with the association of Houston, Istanbul, Georgia-Poti and Baku offices awarded a large movement of Rig related various equipment such Top Drive System. Risers and other equipment from Houston to Baku for Maersk Contractor DSS-20 Project constructing at the Caspian Shipyard Company facility.

**Oman Abrasives/Euroblast, 2002, Caspian Shipyard Co.**

2000 tons of Copper Slags collected from Oman warehouse of CSC Co vendors and shipped to Baku in August 2002. The copper slags packed in pallets and due to non proper packing initiated by the client, Murphy own representative whilst receiving copper slags in Poti supervising that all loading and offloading process goes well, no big damage incurs.

**World Wide Machinery Houston, 2002, CCIC Baku**

8 Self-Propelled Side Booms( Pipe Layers) being arranged transportation from Houston to Baku for Consolidated Contractor International Company constructing BTC Grude Oil Pipeline project. Each weight 65 tons largest units collected from Houston supplier and delivered to Houston Port. All proper lashing, securing Side Booms loaded on to Break Bulk vessel and sailed to Poti. Job still ongoing, vessel close to arrive Poti Port. Same Caterpillars have been shipped from UK, Ex Stockton Pipeline and Mcconnell Dowell Dubai.

**Aker Rauma Offshore, 2000, Chevron-Baku**

Murphy Shipping arranged a special charter vessel from Houston to come to load Mooring Systems in Africa Port and then straight sail to Poti, Georgia. Murphy Georgia, Poti is given advance notification to prepare rail wagons because some of items in the vessel were really heavy and oversize. We had approximately 500 tons of mooring equipment and chain arrived Poti and office in Poti worked overnight discharging vessel and loading onto rail wagons. 15 rail wagons are loaded and shipped to Zyg.

**ADRA Humanitarian Aid, 2000,**

350 x 20' Containers with humanitarian aid shipment arrived from USA to Baku Rail Station. Murphy arranged clearance, whole distribution to humanitarian projects sites in Azeri villages and returning empty containers back to Poti. Value of contract made with Murphy:- 250,000USD.

**British Embassy, 2000**

Within 3 days of opening our office in Turkmenistan, Murphy completed the pack out and move of senior British Embassy employees in Turkmenistan. All packaging materials sourced from Murphy Baku and sent over in dedicated vehicles.

**Azeri MI Drilling Fluids, 2000**

Ongoing regular charters of Baryte fully handled from arrival at the port of Poti, loaded on to rail cars and delivered to Azerbaijan. Thereafter to be discharged from the railway wagons and delivered into the warehouse.

**BUE, 2000, Consignee Various**

Upgrading of several vessels with materials being sourced from various European countries, materially managed by Murphy and stored in Murphy warehouse and delivered to site on call off.

## CURRICULUM VITAE

**Proposed role in the project:** Local Coordinator Aktau

1. **Family name:** Aginaev
2. **First names:** Nurzhan
3. **Date of birth:** 1.06.1964
4. **Nationality:** Kazakhstan
5. **Civil status:** married
6. **Education:**

<b>Institution</b>	Ustkamenogorsk Road-Construction Institute
<b>Date</b>	1981 -1986
<b>Degree(s) or Diploma(s) obtained</b>	Road Traffic Organisation Engineer

7. **Language skills:** Indicate competence on a scale of 1 to 5 (1 - excellent; 5 - basic)

Language	Reading	Speaking	Writing
Russian	1	1	1
English	2	2	2
Kazakh	Mother Tongue		

8. **Membership of professional bodies: if there is any - no**
9. **Other skills:** - Computer literacy
10. **Present position:** Director of the Representative Office of JSC Tranko in Aktau
11. **Years within the firm:** from 1999 to Present time
12. **Key qualifications:**

Mr Sagineav is an engineer and works presently as freight forwarder in Aktau and has more than 10 years experience in the sphere of dangerous goods transportation; excellent knowledge of ADR requirements and national legal and regulatory framework in the sphere of dangerous goods transportation. Mr Saginaev is fluent in Russian, Kazakh and English language.

13. **Specific experience in the region:**

<b>Country</b>	<b>Date from - Date to</b>
Kazakhstan	From 1986 to Present time

14. **Professional experience**

<b>Date from - Date to</b>	<b>Location</b>	<b>Company</b>	<b>Position</b>	<b>Description</b>
1986 1999	Kazakhstan	Kirov's Motor-Transport Depot of UstKamenogorsk	Road Traffic Safety Engineer	Control for technical condition if the vehicles; training of drivers.
1999 2005	Kazakhstan	JSC TRANKO	Director	Coordination of the activity on freight forwarding company; Organization of transportation (including dangerous goods etc.).

**CURRICULUM VITAE****Proposed role in the project:** Local Coordinator Poti**1. Family name:** Matuashvili**2. First names:** Grigol**3. Date of birth:** 24 January 1977**4. Nationality:** Georgian**5. Civil status:****6. Education:**

<b>Institution</b>	Tbilisi Technical University
<b>Date</b>	1994 - 1998
<b>Degree(s) or Diploma(s) obtained</b>	<u>Degree:</u> BA <u>specialty:</u> International Economic Relations
<b>Institution</b>	ACCA, Tbilisi, Georgia
<b>Date</b>	2000
<b>Degree(s) or Diploma(s) obtained</b>	Accounting Course

**7. Language skills:** Indicate competence on a scale of 1 to 5 (1 - excellent; 5 - basic)

<b>Language</b>	<b>Reading</b>	<b>Speaking</b>	<b>Writing</b>
Georgian		Mother Tongue	
English	1	1	1
Russian	1	1	1

**8. Membership of professional bodies:****9. Other skills:** (e.g. Computer literacy, etc.)**10. Present position:** Business Development Executive**11. Years within the firm:** 2**12. Key qualifications:**

Mr Matuashvili is an engineer and works presently as freight forwarder in Poti. He has more than 10 years experience in the sphere of dangerous goods transportation; excellent knowledge of ADR requirements and national legal and regulatory framework in the sphere of dangerous goods transportation. He has specific familiarity with international logistics as he worked several years as forwarder in Nigeria. Besides he has extensive experience in the energy sector, providing services in several off shore drilling and survey projects. Mr Mutuashvilli is fluent in Georgian, English and Russian language.

**13. Specific experience in the region:**

<b>Country</b>	<b>Date from - Date to</b>
Georgia	Constant
Azerbaijan	2000
Ukraine	2002, 2004

**14. Professional experience**

<b>Date from - Date to</b>	<b>Location</b>	<b>Company</b>	<b>Position</b>	<b>Description</b>
2004 – present	Tbilisi , Georgia	Murphy Shipping Georgia Ltd – Freight Forwarding Company	Business Development Executive	<ul style="list-style-type: none"> <li>• Investigating Local Market, Seeking new business development opportunities.</li> <li>• Regular contact with existing customers.</li> <li>• Preparing tender participation documents</li> </ul>
2002-2004	Nigeria	Murphy Shipping & Commercial Services LTD – Freight Forwarding Company , Port –Harcourt	Business Development Executive	<ul style="list-style-type: none"> <li>• Investigating Local Market, Seeking new business development opportunities.</li> <li>• Regular contact with existing customers.</li> <li>• Preparing tender participation documents</li> </ul>
1999 – 2002	Tbilisi, Georgia	“Murphy Georgia” Ltd. - Freight Forwarding Company,	Operations Supervisor	<ul style="list-style-type: none"> <li>• <i>Managing vessels, rails and road operations;</i></li> <li>• Guarantying the qualified fulfilment of operations;</li> <li>• Duly issuing of vessels operations related documents;</li> <li>• Issuing of cargo export documents;</li> <li>• Supervise all operation activities;</li> <li>• Seeking new business development opportunities, interfacing with and providing corporate support to related companies and overseas agents;</li> <li>• Assisting all other departments to meet exacting company requirements;</li> </ul>
1996 – 1999	Tbilisi, Georgia	Murphy - Georgia”- Freight Forwarding Company,	Operations Manager’s Assistant	<ul style="list-style-type: none"> <li>• Make the necessary arrangements for the vessels discharge ;</li> <li>• Issuing export documentation;</li> <li>• Cargo movement control;</li> <li>• Reporting to the customers and principals on the position of cargo;</li> </ul>
2003-present				Spie-Capag-Petrofac JV - BTC project – Baku-Tbilisi-Ceykhan pipeline project; main sub contractors for logistic service, handling and transportation of heavy lift equipments and radioactive goods.
2002-2004				Exxon/Mobile – deep offshore drilling, providing customs clearance and export of all shipments designated for offshore drilling
				Halliburton – export of dangerous goods, mainly explosives , customs clearance and export.
				Fugro Survey – Survey project for the Shell and Exxon Mobil; handling of all import and export shipments

				Noble Drilling and Global Santafe – offshore drilling projects for Shell, Agip, Exxon Mobil; handling of all export and import shipments
				Schlumberger – oilfield service; import export clearance
				Nigeria LNG – Bonny island project; customs clearance and local service
1999-2002				WFP / UNDP - distribution of Humanitarian aid in South Caucasus and Central Asia
1998 - 1999				Baku Supsa Western Route Pipeline project - BP/McConnell Dowel
1997-1998				Container Shipping Line (Antwerp-Poti) – Lara Express Line

**15. Other relevant information (eg, Publications)**

Internship and Training

Cargo Training International “Dangerous Goods By Sea”  
September 1999, BIFA Program, London, UK

**Cargo Training International “Dangerous Goods By Air”**  
September 1999, BIFA Program, London, UK

**“ International Transport Documentation”**  
September 1999, BIFA Program, London, UK

**“Dangerous Goods Safety Adviser”**  
September 1999 ,Scottish Qualifications Authority, London, UK



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