PARLAMENTO EUROPEO

DIRECTORATE GENERAL FOR INTERNAL POLICIES OF THE UNION

POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES

FISHERIES

Fisheries in the Basque Country

NOTE

This document was requested by the European Parliament Committee on Fisheries.

AUTHOR

Jesús Iborra Martín
Policy Department for Structural and Cohesion Policies
European Parliament
E-mail: poldep-cohesion@europarl.europa.eu

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ABOUT THE EDITOR

To contact the Policy Department or subscribe to its monthly newsletter please write to:
poldep-cohesion@europarl.europa.eu

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NOTE

Content:

Information note for the Delegation of the European Parliament Committee on Fisheries to the Autonomous Community of the Basque Country (Spain) from 15 to 17 February 2010.

It describes the fishing fleet of the Basque Country, its fisheries and fishing ports. It also describes the sectors of aquaculture, the processing industry and the sale of fisheries products and research associated with fisheries and the marine and coastal environments.

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ABBREVIATIONS

ANFACO Asociación Nacional de Fabricantes de Conservas de Pescados y Mariscos (National Association of Manufacturers of Canned Fish and Shellfish)

ARBAC Asociación de Empresas de Pesca de Bacalao, Especies Afines y Asociadas (Association of Enterprises Fishing Cod and Similar and Associated Species)

CAPV Comunidad Autónoma del País Vasco (Autonomous Community of the Basque Country)

ICCAT International Commission for the Conservation of Atlantic Tunas

ICES International Council for the Exploration of the Sea

DCP *Dispositivos Concentradores de Pescado* (Fish Concentration Mechanisms)

FIFG Financial Instrument for Fisheries Guidance

MARM Ministerio de Medio Ambiente y Medio Rural y Marino (Spanish Ministry for the Environment and Rural and Marine Affairs)

COM Common Organisation of the Market

PO Producers Organisations

OPAGAC Organización de Productores Asociados de Grandes Atuneros Congeladores (Organisation of the Associated Producers of Large Freezer Tuna Ships)

NAFO Northwest Atlantic Fisheries Organization

OPEGUI Organización de Productores de Pesca de Bajura de Guipuzcoa (Organisation of Inshore Fisheries Producers of Guipuzcoa)

OPESCAYA Organización de Productores de Pesca de Bajura de Vizcaya (Organisation of Inshore Fisheries Producers of Vizcaya)

OPPAO Organización de Productores de Pesca de Altura del Puerto de Ondárroa (Organisation of Deep-Sea Fisheries Producers of the Port of Ondárroa)

OPTUC Organización de Productores de Túnidos Congelados (Organisation of Frozen Tuna Producers)

GDP Gross Domestic Product

PYSBE Pesquerías y Secaderos de Bacalao de España (Spanish Cod Fisheries and Curing Businesses)

MGP Multiannual Guidance Programme

SIP *Servicio de Inspección Pesquera* (Fisheries Inspection Service)

EEZ Exclusive Economic Zone

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SUMMARY NOTE

Purpose

This information note was drawn up to assist the members of the European Parliament Committee on Fisheries taking part in the delegation to the Autonomous Community of the Basque Country (Spain) from 15 to 17 February 2010.

Introduction

After Galicia, the Basque Country has the second largest fisheries sector and fisheries products processing industry in an autonomous community in Spain. Despite this, fisheries represent less than 1 % of GDP and employment in the Autonomous Community of the Basque Country (CAPV). However, fishing activity is concentrated in certain areas in which it represents 7 % of GDP and 20 % of employment, as each job at sea generates more than four jobs. There are more than 2 500 jobs on board fishing vessels, around 2 000 in the processing industry and around 1 500 in sales.

The Basque fisheries sector, like the whole of the European fisheries sector, is going through a major crisis that began in the second half of the 20th century. However, the obstacles that it has had to deal with and the strategies for doing so are typical of and specific to the Basque Country. The causes of these differences are very varied and the reasons for them are historical, structural and due to the current economic climate.

In order to understand the current situation, we need to start from a historical perspective, which begins with the policy of mass vessel construction in the 1960s and part of the 1970s. On top of this came the gradual erosion of fisheries resources, the limitation of access to the traditional fishing grounds of the Basque fleet and various waves of economic crisis. These problems were aggravated by sales problems such as imbalances between supply and demand in the salted and frozen fish markets or by auctioning methods, which put supply in a weak position.

Ultimately, the concentration of distribution among supermarkets and competition from production (catches or aquaculture) from third countries, the increase in fuel prices and the decline in purchasing power as a result of the economic crisis have introduced new instability factors into the fisheries economy. In the current context one cannot ignore the lack of effectiveness of the Common Organisation of the Market (COM) in cushioning the sales problems or the management and recovery plans for certain fisheries resources. There should also be a discussion regarding the conditions established in the fisheries agreements with third countries and the arrangements in those agreements for access to fisheries resources.

The catches of the Basque fishing fleet are around 200 000 t per year, concentrated in a limited number of resources. Around 78 % of the catches are tuna, 15 % are pelagic fish and the remaining 7 % are demersal species in European waters. The fisheries sector is not very flexible in terms of reorienting its activities towards alternative resources. In general the fisheries are mixed.

The majority of the species fished by the Basque fishing fleet have experienced or are experiencing difficult situations. Tropical tuna are the resources in the best situation.

Forty-six per cent of catches of tropical tuna caught by the Basque fleet are skipjack tuna (*Katsuwonus pelamis*), which are underfished. Yellowfin tuna (*Thunnus albacares*) also represents 46 % of catches, and is not facing serious problems. However, bigeye tuna (*Thunnus obesus*) from the Atlantic and Indian Oceans is overfished under the pressure from the Asian longliners, but represents only 8 % of the catches by the Basque fleet.

Other target species are in a precarious situation. Bluefin tuna (*Thunnus thynnus*) is on the verge of collapse. Catches of anchovies (*Engraulis encrasicolus*) have been halted since 2006. Several of the demersal target species are in a poor conservation state. In particular, hake and Norway lobster are the focus of a long recovery plan. North Atlantic Hake, however, is experiencing a marked recovery.

The fishing fleet has considerably reduced. The freezer trawlers ended up disappearing in 2003, there are only three cod fishing vessels left, and there have been major reductions in the numbers of inshore fresh and deepsea vessels. The only sector that is still growing is the freezer tuna vessels, which fish in tropical waters of the Atlantic and Indian Oceans.

The inshore fleet does two different methods of fishing: fishing for surface species, which is the most significant method, and small-scale fishing. The inshore surface fleet catches pelagic species with purse seines or troll lines. Another method is small-scale fishing, which catches demersal species near to the coast.

The fresh deepsea fleet has been affected by the adverse circumstances of recent decades and has been considerably reduced. The resources of several of its target species are in a very precarious situation. The fishing fleet dedicated to catching demersal species has been reduced by 60 % in the last 15 years. This fleet uses various types of gear: trawl nets, lines and gillnets, each present in different forms. The traditional trawling gear has been converted for pair trawling along with other innovations in the gear. A small proportion of the fleet uses other fixed gear, longlines or gillnets.

The Basque cod fleet has declined in line with the state of the resources and the reduction in quotas. In the port of Pasajes alone, in 1973 there were 73 cod vessels; now there are only three left in the whole of the CAPV.

The freezer tuna vessel sector is growing very fast. However, the vessels that fish in the Indian Ocean are facing the threat of piracy. Sixty-eight per cent of tuna catches are caught in tropical waters of the Indian Ocean, 26 % in tropical waters of the Atlantic Ocean and 6 % in temperate waters. Although catches of tropical tuna remain stable, prices have not increased in line with cost increases, as the market is under pressure from imports of whole tuna from Asia and South America.

There are 24 fishing ports on the Community Fishing Fleet Register, but most of the activity is concentrated in Ondárroa, Pasajes, Guetaria, Bermeo and Fuenterrabía. These ports produce 70 % of the total income and 75 % of the employment generated in the CAPV's fishing sector. If only the extraction sub-sector is considered, these percentages increase to 93 % and 88 %. The greatest dependency on fishing activity is in the municipalities of Guetaria, Ondárroa and Bermeo.

In the ports of the Basque Country there has been specialisation in certain fisheries. The cod-fishing fleet has traditionally been concentrated in Pasajes and freezer tuna vessels have been concentrated in Bermeo.

Although the ports have been modernised, the modernisation has scarcely reached the port infrastructures for the management and handling of the caught fish and there is no comparison with the modernisation in the ports of Galicia and Cantabria in Spain, or in France. In the ports of the CAPV there is a lack of space and adequate facilities for storing, processing and selling fish and the integration of services is inadequate.

The fishing ports of the Autonomous Community of the Basque Country that have fish auctions are Bermeo, Lequeitio, Ondárroa, Motrico, Guetaria, San Sebastián, Pasajes and Fuenterrabía. The sales sector is fragmented and is struggling to cope with increasingly concentrated distribution. The wholesalers that operate in the port do not have sufficient facilities to handle landings at peaks of production.

The canning industry absorbs around 75 % of catches and generates three quarters of the employment in the processing sector. Production of frozen fish is also significant and there is some production of smoked fish. Small and medium-sized enterprises predominate, although there are still 10 medium to large enterprises. The processing industry in the Basque Country is facing an excess of production capacity and is affected by the downward pressure on prices from imports of products from third countries with lower production costs. The workload in the canning industry is very seasonal, as it is very dependent on a small number of species (bonito, anchovy, mackerel and horse mackerel).

There are four producers' organisations based in the Autonomous Community of the Basque Country. The *cofradías de pescadores* (fishermen's associations) are associations governed by public law responsible for representing the fisheries sector and for organising and selling its products. The fishermen's associations in the Basque Country are grouped into two provincial federations. The associations of eight ports of the province of Vizcaya (Ondárroa, Bermeo, Lequeitio, Armintza, Elanchove, Mundaca, Santurce and Ciérvana) and six in the province of Guipúzcoa (Guetaria, Pasajes, Fuenterrabía, San Sebastián, Motrico and Orio) are officially individually recognised.

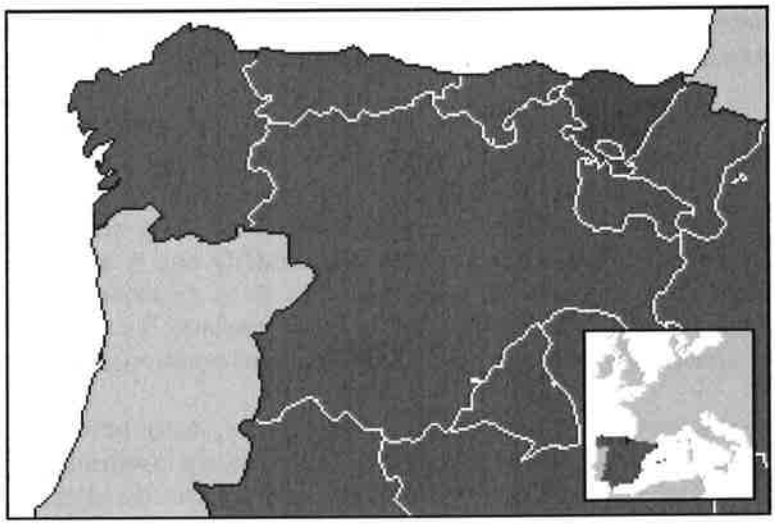
Aquaculture in the Basque Country is very under-developed due to the lack of suitable space. There are scarcely any aquaculture species adapted to the strong currents, waves and temperature of the Cantabrian Sea. Moreover, the meteorological and hydrographic conditions make aquaculture difficult if not impossible in the open sea. Competition for use on the coast and the lack of availability of coastal land are limiting factors.

In the Basque Country, research into fisheries and coastal management and management of the marine environment is conducted by AZTI-Tecnalia. This foundation also does research into marine and fishing technology and technology for the food industry.

1. GEOGRAPHICAL FRAMEWORK

The Autonomous Community of the Basque Country is situated at the easternmost end of the Cantabrian coast. To the North it borders on the Cantabrian Sea and France, to the South on La Rioja, to the West on Cantabria and Castilla y León and to the East on Navarra.

Map 1: Location of the Autonomous Community of the Basque Country



The Basque Country covers 7 234 km² (1.4 % of the surface area of Spain), and has a population of 2 128 801 inhabitants (4.9 % of the population of Spain), with a population density of 294 inhabitants/km².

The GDP (2008) represents 6.3 % of the total for the whole country. The primary sectors, agriculture, livestock and fisheries, represent 0.95 % of the GDP of the Autonomous Community, energy represents 3.32 %, and industry represents 24.14 %, construction represents 8.84 % and services represent 54.30 %.

1.1. Political and administrative structure

The **Autonomous Community of the Basque Country (CAPV)** is one of Spain's 17 autonomous communities. The Basque Country became autonomous in 1979 when the Statute of Autonomy was adopted. This **Statute of Autonomy (Guernica Statute)** gives the Community powers over health, education, security, housing, agriculture, livestock and fisheries and taxation, and recognises the existence of a Government with executive powers and a Parliament with general legislative capacity. The Guernica Statute has some differences compared with the statutes of the other Autonomous Communities, as it is an up-to-date version of the *fueros* (charter) system of the three Basque provinces within the framework of the Spanish Constitution. There are therefore two regional bodies inherited from the Basque charter tradition, the **Juntas Generales**, with a legislative capacity that is similar to parliaments; and the **Diputaciones Forales** (regional councils), the executive institutions, creating a very decentralised structure for the Autonomous Community.

This means that, in addition to its other powers, the Basque Country receives **exclusive funding** based on the economic agreements of the Basque Provinces established when the

charters were abolished in 1876, which were retained in Álava but repealed in Guipúzcoa and Vizcaya when the Civil War ended. The Statute of Autonomy provides for the Basque Country's own police force, the *Ertzaintza*.

The Autonomous Community of the Basque Country is administratively divided into three provinces or 'historic territories', Álava, Guipúzcoa and Vizcaya. There are 20 regions and 251 municipalities, 51 in Álava, 88 in Guipúzcoa and 112 in Vizcaya.

Map 2: Provinces and regions of the Basque Country

The capital of the CAPV is Vitoria, in the province of Álava, where the seats of the Basque Parliament and Government are located. Just 10 municipalities, each with more than 35 000 inhabitants, are home to 56 % of the population of the Autonomous Community. The largest city is Bilbao, followed by Vitoria. Six of the most populous municipalities are in the province of Vizcaya, which represents 24 % of the population of the Autonomous Community. In Guipúzcoa there are only three large municipalities that are home to 8 % of the population, and the capital, Álava, is the only municipality with more than 35 000 inhabitants in that province, representing 8 % of the regional population.

Table 1: Municipalities with the greatest population

PROVINCE	MUNICIPALITY	POPULATION	% OF CAPV POPULATION
Vizcaya	Bilbao	353 340	17 %
Álava	Vitoria	232 477	11 %
Guipúzcoa	San Sebastián	184 248	9 %
Vizcaya	Baracaldo	97 328	5 %
Vizcaya	Guecho	81 260	4 %
Guipúzcoa	Irún	60 914	3 %
Vizcaya	Portugalete	48 205	2 %
Vizcaya	Santurce	47 004	2 %
Vizcaya	Basauri	42 966	2 %
Guipúzcoa	Rentería	38 505	2 %

Source: Instituto Nacional de Estadística (2008)

1.2. Physical environment, sea depths and hydrography

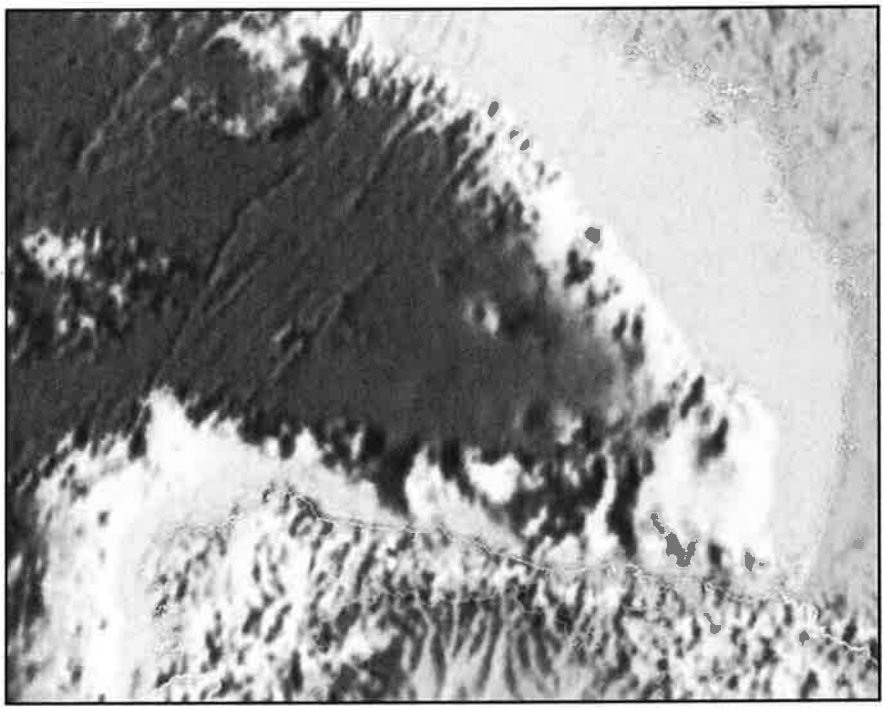
The orography of the Basque Country is very rugged, as it is situated between the extreme west of the Pyrenees and the east of the Cantabrian mountains. The division between the Cantabrian and Mediterranean waters determines the geomorphology of the area, which is formed by a succession of low mountain ranges such as the Sierra de Aralar, the Sierra de Aizkorri-Urkilla-Elgea, the Macizo de Urkiola, the Sierra del Gorbea and the Sierra Salvada. The highest point is the Monte Aitxuri, at 1 551 m.

Map 3: Orography of the Basque Country

In the north there is a series of river basins that flow towards the Cantabrian Sea with steep gradients from south to north. In the Ebro River area the relief is gentler and there are smaller altitude differences, as the Mediterranean rivers flow at an altitude of around 600 m. The Llanada Alavesa is a large, central plateau with the River Zadorra running through it, bordered by various mountainous areas that separate it from the Ebro River depression.

There are four climate areas: the Atlantic climate dominates in the north; in the western valleys of Álava and the Llanada Alavesa the climate is sub-Atlantic, and there is also a sub-Mediterranean climate and, in the south, in the Ebro River depression and Rioja Alavesa, the climate is continental, with hot, dry summers.

Map 4: Relief of land and ocean



The Autonomous Community of the Basque Country has 246 km of coast, which represents 5.1 % of the Spanish coast. Guipúzcoa has 92 km of coast and Vizcaya has 154 km.

The Gulf of Vizcaya is the part of the North Atlantic between the Cabo Ortegal in Galicia (Spain) and Pointe Penmarc'h in Brittany (France). Sometimes the term Gulf of Vizcaya is used to refer specifically to the easternmost part of this sea. In Spain the geographical reference to the Cantabrian Sea is often used, which is the part of the sea that is opposite the Spanish Cantabrian coast.

The Southern coast is steep, in the form of cliffs. The continental platform is very small and there is almost no transition to the continental slope. There are small bays, which are generally river estuaries in the form of tidal inlets. These are ideal areas for ports on such a rugged coast. However, due to the river gradients, they carry sediment along with them that can create sandbanks that make it difficult to access the ports.

Between Deva and Zumaya there is a tidal platform that extends as far as Ondárroa, but in a less marked form. This formation is due to the action of the waves on the cliffs, creating a step at tide level. This part of the coast has the worst conditions for ports.

The Cantabrian Sea is a transition between the cold seas of the north and the temperate seas of the tropics. This situation is also reflected in its ecology, as it is a transition area for cold water plant and animal species. The temperature of the water is warmer towards the French coast and the saltiness of the sea varies depending on the rainfall. The tides are very wide ranging. The Cantabrian Sea is crossed by the Gulf Stream, which follows the outline of the continental shelf anti-clockwise.

The dominant winds are north-westerly and originate from the combination of the Azores anticyclone and the low pressure centred over the British Isles and the North Sea. These winds cause the Cantabrian Sea to be very rough, with waves of between 2.5 and 3 m high. In April/May and September/October there can be gale conditions with easterly winds

and waves more than 9 m high.

2. FISHING FLEET

This note only considers the Basque fleet that fishes under the Spanish flag. Some Basque operators have an interest in enterprises in other Member States or third countries, or joint ventures. There are also operators that have vessels with flags of other Member States or of third countries. It is difficult to quantify and analyse this fleet. However, these vessels take part in the fishing activities of the Basque Country either through their landings or by taking on crew from the Autonomous Community.

After the Galician fleet, the Basque fishing fleet is the second largest in Spain. Although it only represents 2 % of the number of vessels, it has 19 % of the tonnage and 14 % of the power. This situation is due to the large size of the vessels in some sectors, such as freezer tuna vessels and deepsea fresh fishing vessels.

The operators are specialised and their vessels are dedicated solely to very specific sectors:

- inshore vessels
- deepsea fresh vessels
- freezer tuna vessels
- cod vessels.

A fifth sector, freezer trawlers, disappeared in 2003.

Graph 1: Distribution of the Basque fishing fleet by sector - 2008

Source: EUSTAT - Own graph

Table 2: Distribution of the Basque fishing fleet by sector - 2008

Sector	No of vessels	Tonnage (Tm.)	Power (kW)	Tm/Vessel	kW/Vessel
Inshore	210	12 963	64 005	62	305
Deepsea fresh	34	7 046	20 222	207	595
Cod	5	3 261	8 860	652	1 772
Freezer tuna	25	39 145	108 946	1 566	4 358
Total	**274**	**62 415**	**202 033**	**228**	**737**

Source: EUSTAT - Own table

The Basque Country's fishing fleet grew rapidly after the Law on the Renovation and Protection of the Fishing Fleet[1] was passed in 1961. The aim was to speed up the modernisation of the fishing industry, but also to give work to shipyards that were in difficulty. Until 1974 public funding mainly benefited the deepsea fishing fleet, as it was mainly directed towards building vessels weighing more than 150 t. The sectors that grew most were cod vessels, freezer vessels and, to a lesser extent, deepsea fresh vessels. The small-scale fleet also increased, but the coastal fleet (then defined by tonnage of between 20 and 100 t) reduced slightly in terms of numbers of vessels although its tonnage and particularly its power increased.

Following a short but intense period of growth, the fleet faced unforeseen situations. In 1977, the extension of Exclusive Economic Zones (EEZs) to 200 miles became widespread. This process was initiated by the United States in 1945 with the 'Truman Declaration' and Peru, Chile and Ecuador followed in 1952. However, did not start to affect the activity of the Basque fishing fleet until 1976 when Canada and Norway extended their EEZs. The situation worsened when the Member States of the European Economic Community did so in 1977.

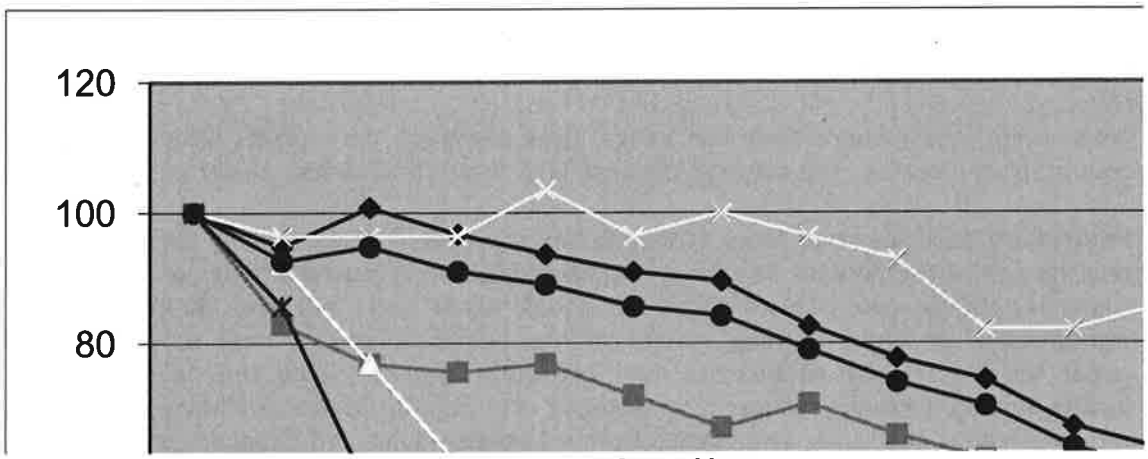
This forced part of the fleet to travel to more distant fishing grounds, and this coincided with an increase in fuel prices as a result of the first oil crisis. Moreover, some of the fisheries resources that were very important to the Basque fleet were in a very precarious situation. Within a short time the fleet, and in particular the large vessels sector, was too big for the resources available. The fleet being too big was not the only problem, as technical and economic performance suffered a drastic decline.

In addition, the salted cod market shrank. The increase in purchasing power in Spain diverted part of the consumption of cod to other fresh fish. Decisions were also made with a lack of joint vision. The freezer trawler sector was stimulated even when the distribution network and homes still lacked the equipment to keep the catches frozen. Therefore freezer trawler production found it difficult to find a gap in the market.

To summarise, the Basque fleet grew very rapidly, followed very shortly by a serious crisis. The fleet needed to be restructured and fleet management policies were adopted. Given that there is still an imbalance between resources and the fishing capacity of the fleet, these policies have been maintained until the present day.

[1] Law 147/1961, of 23 December on the renovation and protection of the fishing fleet. Boletín Oficial del Estado: Gaceta de Madrid no 311, of 29.12.1961.

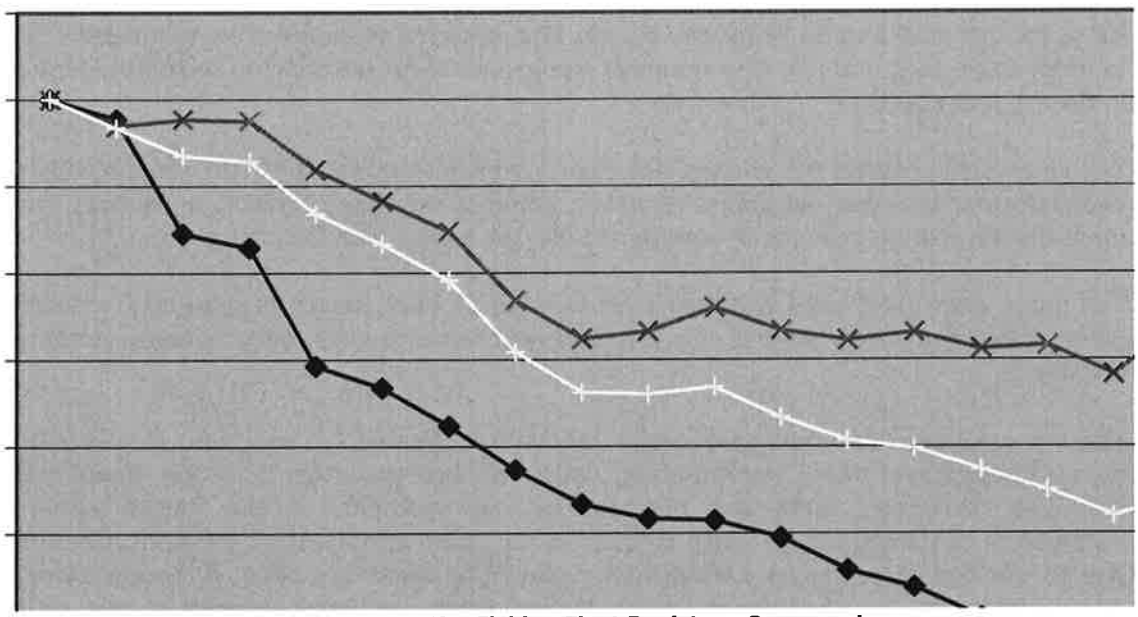
Graph 2: Changes in the number of boats per fleet sector - 1995=100



Source: EUSTAT - Own table

The Basque fishing fleet underwent major restructuring, which resulted in a reduction in size as well as renovation and modernisation. In general, numbers were reduced in all sectors, although the reduction was smallest in the case of freezer tuna vessels. The greatest reductions in the fleet were during the third Multiannual Guidance Programme (MGP III), which was in force from 1992 to 1996.

Graph 3: Changes in the Basque fishing fleet



Source: Community Fishing Fleet Register - Own graph

The reduction in the fleet under MGP III continued until 1998. Subsequently, and after the entry into force of the entry/exit regime, the reductions were much smaller. The decline in

the number of vessels was much greater than the reduction in tonnage or power. Although the power was scarcely reduced, the tonnage remained at around the level reached in 1998.

During this restructuring programme the average age of the Basque fleet reduced significantly, especially in the inshore fleet. However, the cod fleet is significantly older than the other sectors.

2.1. Inshore fleet

On average, the inshore fleet has seven crew members per vessel. Although there is a great deal of diversity, the average tonnage is 62 t and its average power is 305 kW.

The inshore fleet does two types of fishing based on the species caught, the gear used and also the size of the vessels. The most important method is '**surface fishing**', which catches migratory pelagic species with purse seines, or '*cacea*' with troll lines. Another method is '**small-scale or hake fishing**' which catches demersal species near to the coast. The target species for the small-scale fleet are quite diverse, while the fleet dedicated to surface fishing is very dependent on anchovy and bonito. Coastal anchovy fishing is done between March and June, and bonito fishing between June and October. When this ends, part of the fleet moves to the Atlantic or the Mediterranean. The rest of the fleet stays near to the coast catching sardines, horse mackerel and other species.

Around 75 % of the inshore fleet is dedicated to **small-scale fishing**. The average parameters of the small-scale fleet are smaller. The average crew therefore comprises no more than three people, the average tonnage is 29 t and the average power is 177 kW. In general they are family enterprises in which the owner is also the skipper or crew.

Traditionally, the crews of the inshore fleet have been paid 'by share'. The operating costs for the boat are deducted from the proceeds of selling catches. The remainder is shared, 47 % for the crew and 53 % for the owner. This system forces the crew to increase catches in order to be paid and has also removed the incentive for introducing technical innovations in fishing operations.

The small-scale coastal fleet fishes less than 12 miles from the coast. In general they go on expeditions of less than 24 hours. However, some of the larger vessels in the fleet travel to more distant fishing grounds in summer to fish for bonito with troll lines.

The small-scale fleet uses a quite diverse range of gear, which is gradually reducing. In general, the gear used is quite selective and includes troll lines, vertical lines, set longlines or gillnets.

The inshore fleet has undergone major renovation. The sector has been rejuvenated and technologies have been incorporated, which means that the work on board can be improved. However, there still need to be improvements in the mechanisation and automation of fishing tasks, which is clear in the seine and live-bait methods. This need is due to the high demand for skilled labour, which at times is scarce. Although there have been substantial improvements, there is still room for improvement of the on-board working conditions, particularly safety. The incorporation of new technologies has made it possible to reduce fuel consumption in fishing methods such as fishing for bonito with troll lines or live bait, which requires vessels to travel long distances.

2.2. Deepsea fresh fishing fleet

This sector is among those that have been affected by the adverse circumstances in recent decades. It has been directly affected by the limitations of access to resources. Traditionally they fished in Gran Sol, the Irish Sea and the 58th Parallel North. In 1977, with the extension of the EEZs, their activity was very much restricted.

In addition, resources of several of its target species have been greatly depleted. Profitability has been declining. The sector is currently being affected from a commercial point of view by competition from products from third countries.

This fleet was concentrated in the ports of Pasajes, Ondárroa and Bilbao. Fishing in these ports was seriously impacted by the crisis that affected this fleet from the second half of the 1970s. In the port of Pasajes the effects combined with the effects on the cod sector. Fishing activity reduced substantially in Pasajes but disappeared altogether in Bilbao.

The average crew of the deepsea fresh fleet is 12 per vessel. The average tonnage is 207 t and the average power is 595 kW.

The trawlers used traditional gear, such as '*bakas*' and '*bous*'. This gear had to be let down and hauled in over the side. It has now become obsolete. In fact, the majority of the vessels that used '*bakas*' have been substituted by boats with ramps in the stern that speed up the operations and make them safer. However, there are still some boats that use traditional '*bakas*'.

'*Bous*' have disappeared, usually due to conversion to pair trawling. However, investment to continue the conversion to pair trawling has reduced along with economic performance. Even so, the use of sensors has substantially modified the handling of this gear.

As well as the vessels that use trawls there is a small proportion of the fleet that uses other fixed gear, longlines or gillnets. As a result of the fragile situation of hake resources there has been a diversification of the target species, especially in the units that use longlines.

2.3. Cod fleet

The Basque cod fleet has seen a decline in line with the state of resources and the reduction in quotas. It is now no more than a shadow of what it was decades ago and it currently only has three vessels. It should be taken into account that in 1973 there were 73 cod boats in the port of Pasajes.

Before the crisis in cod resources, there was a great deal of concentration in terms of businesses in the cod fleet. At the end of the 1960s, Pesquerías y Secaderos de Bacalao de España (PYSBE) (Spanish Cod Fisheries and Curing Businesses) owned a fleet that represented more than 23 % of the tonnage of the fleet of the port of Pasajes. It also had its own wharf and cod curing factories.

The crisis began at the end of the 1960s with a drastic reduction in catches. The PYSBE vessels were specialised in cod salting with few or no possibilities of focusing their activity

on other target species. As a result, PYSBE issued a statement of financial difficulties in 1974 and suspended its activities. The wharf franchise went back to the State and the facilities were destroyed.

Subsequently, when Norway and Canada extended their Exclusive Economic Zones in 1976, the situation deteriorated. In addition, the increase in purchasing power in Spain at the end of the 1970s meant that consumption could be directed towards other products. The price of cod fell and stocks of 'unfinished' cod (salted but not dried) accumulated.

The decline in this sector manifested itself in both ageing and lack of renovation in this sector of the fleet and in the decline in fishing activity in ports such as Pasajes. The ageing of this fleet is obvious: one of the boats was built in 2006; the other two are 40 years old.

Currently activity in the sector has considerably reduced to only three or four months per year. Although the fleet has a Northwest Atlantic Fisheries Organisation (NAFO) quota for Greenland halibut in the Northwest Atlantic, its activity is essentially focused on Arctic cod and haddock in waters of the northwest Atlantic.

On average, the cod fleet has 25 crew members per vessel. The average tonnage is 652 t and its average power is 1 772 kW.

2.4. Freezer tuna fleet

The freezer tuna fleet is mainly registered in the port of Bermeo, although mainly operates from distant ports. The seiner fleet fishes in the tropical areas of the Atlantic and Indian Oceans.

The freezer tuna sector is the most dynamic sector in the Basque fishing fleet. On average the freezer tuna vessels have 25 crew members per vessel. The average tonnage is 1 566 t and the average power is 4 358 kW. However, the fleet has tuna vessels of various sizes as a result of the renovation process in this sector. There are six tuna vessels that are more than 100 m long, 10 more are between 75 and 88 m long.

The renovation of the fleet has not only been manifested in an increase in the dimensions of the boats. Deep freezing has also been introduced on board, and new haulers have been incorporated to unload the nets.

The catches by the tropical tuna vessels are more or less stable but the prices have not increased in line with the costs. This market is under pressure from imported whole tune from Asia and South America.

Box 1: Piracy in the Indian Ocean

The tuna vessels that fish in the Indian Ocean face the threat of the pirates that operate from Somalia. In fact, two Basque tuna vessels have been hijacked. The **'Playa de Bakio'**, owned by Pesquera Vasco Montañesa (Pevasa) was hijacked from 20 to 26 April 2008. On 2 June 2008, the United Nations Security Council adopted a resolution authorising foreign vessels to pursue pirate boats in Somali waters with the consent of the Somali authorities. The resolution is covered by Chapter VII of the United Nations Charter, which calls for the use of force in order to carry out decisions of the Security Council.

Subsequently, the '**Alakrana**', owned by Echebastar Fleet S.L., managed to avoid a hijack attempt on 3 September 2009 495 miles from Somalia. However, it was finally hijacked on 3 October 2009, 413 miles from the southern coast of Somalia, far from the area protected by Operation Atalanta. It was freed on 17 November 2009, after 47 days. On 2 November 2009 Spanish legislation was changed[2] to allow security guards to use weapons of up to 12.70 mm on vessels with Spanish flags. On vessels with flags of the Seychelles soldiers are permitted on board and larger weapons may be used than on the Spanish vessels.

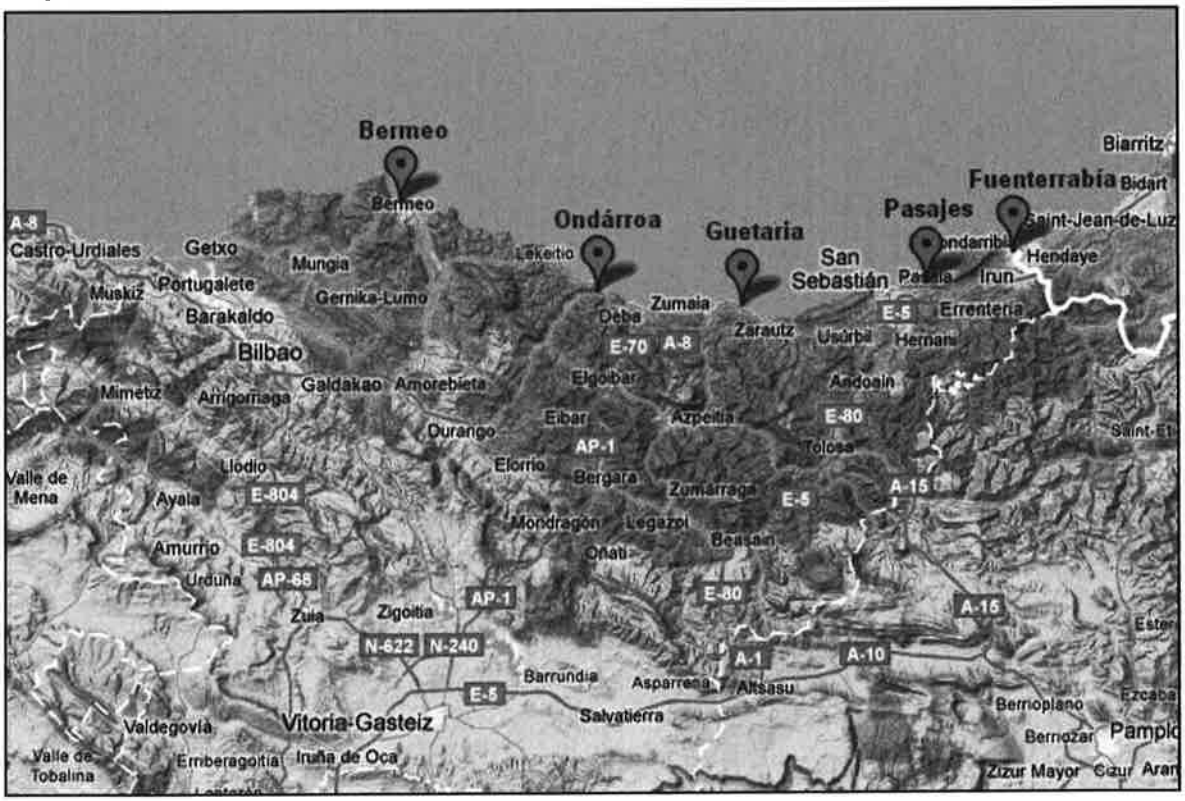
[2] Order PRE/2914/2009, of 30 October, implementing the provisions of Royal Decree 1628/2009, of 30 October, amending certain precepts of the Private Security Regulation, adopted by Royal Decree 2364/1994, of 9 December, and the Weapons Regulation, adopted by Royal Decree 137/1993, of 29 January.

3. FISHING PORTS

There are 24 fishing ports on the Community Fishing Fleet Register. Fishing activity has disappeared from some ports recently and in some of them there are no fishing vessels registered. In 1990 there were 21 ports with fishing vessels registered, but now only 16 ports have vessels registered, and three of them (Elanchove, Mundaca and Bilbao) only have one registered. In the last 20 years fishing vessels have disappeared from five ports (Zumaya, Zarauz, Deva, Las Arenas and Algorta).

The main ports in the Basque Country used to combine commercial activities with fishing. However, the small ports have traditionally specialised in fishing, and particularly inshore fishing. Nevertheless the activities in the ports have changed substantially in recent decades.

Map 5: Main fishing ports



The ports of the Basque Country have specialised in certain types of fishing. This is due both to the physical determining factors of the ports and to other factors such as particular businesses being set up or particular business decisions.

The turbulent history of fishing over the last 50 years has led to radical changes in fishing activity in some ports. The difficulties for deepsea fresh fishing and freezer trawlers have resulted in fishing practically disappearing from the port of Bilbao. In the same way, the problems encountered by cod fishing since the beginning of the 1970s have caused the decline in fishing activity in the port of Pasajes. The ports of Bilbao and Pasajes have therefore specialised in commercial activities. The port of Pasajes still has a significant amount of fishing activity, but it is not as significant as commercial activity, but in Bilbao

fishing activity is incidental. However, the activity of the canning industry and the decisions of some operators have increased the size of the port of Bermeo, at least in terms of registered fleet, due to the freezer tuna vessels.

There are five ports that conduct the bulk of fishing: Guetaria, Ondárroa, Bermeo, Pasajes and Fuenterrabía. Two of them, Ondárroa and Bermeo, are in the province of Vizcaya, and the majority of the deepsea fleet is registered there. However, most catches by the inshore fleet are landed in the three largest ports in Guipúzcoa (Guetaria, Pasajes and Fuenterrabía).

The ports of Ondárroa, Pasajes, Guetaria, Bermeo and Fuenterrabía produce 70 % of the total income and 75 % of the employment generated by the CAPV fishing sector. If only the extractive sub-sector is taken into account, these percentages increase to 93 % and 88 %.

Table 3: Distribution of the registered fleet by ports - 2010

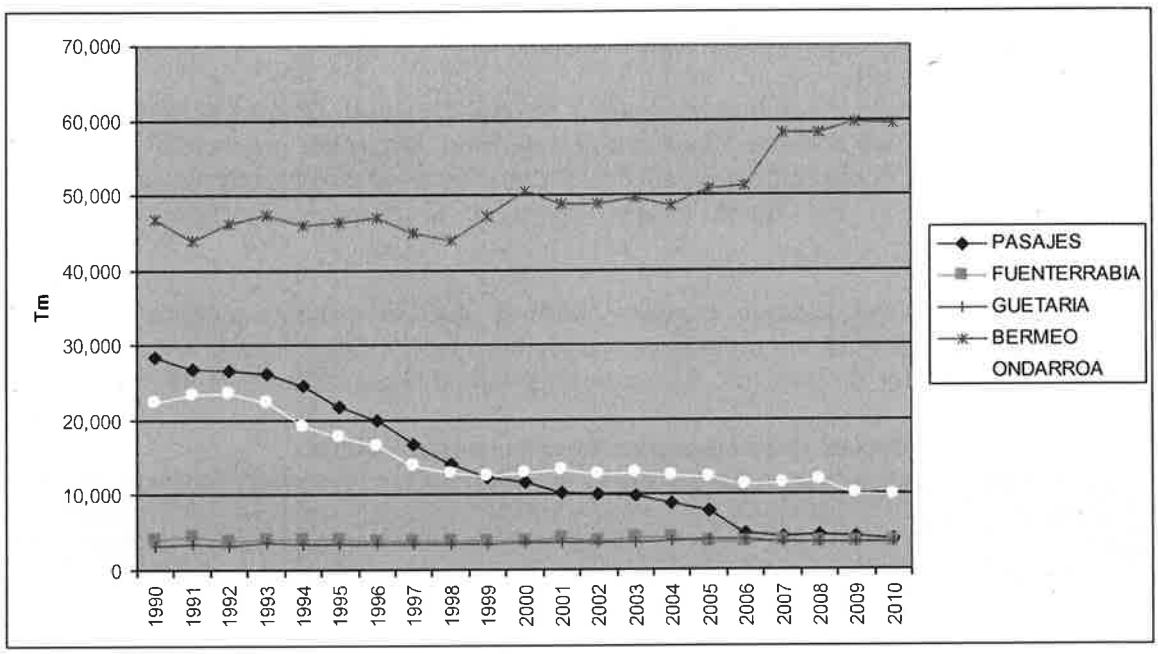
PORT	No Vessels	Tonnage (TRB)	Power (kW)	Average tonnage (TRB/vessel)	Average power (kW/vessel)
BERMEO	28 %	71 %	65 %	794	1 225
ONDARROA	13 %	12 %	9 %	291	380
PASAJES	9 %	5 %	4 %	179	256
FUENTERRABIA	12 %	4 %	8 %	118	365
GUETARIA	11 %	4 %	6 %	122	285
ORIO	3 %	2 %	3 %	191	562
LEQUEITIO	5 %	1 %	1 %	47	160
SAN SEBASTIAN	5 %	0 %	1 %	29	115
MOTRICO	1 %	0 %	0 %	81	195
SANTURCE	4 %	0 %	1 %	22	102
CIERVANA	3 %	0 %	1 %	30	108
Other ports	7 %	0 %	1 %	8	46
TOTAL	**100 %**	**100 %**	**100 %**	**317**	**534**

Source: Community Fishing Fleet Register - Own table

The concentration of tonnage and power in the port of Bermeo is due to the fact that the freezer tuna fleet is registered there. In general, these vessels operate from ports in the tropical areas of the Atlantic and Indian Oceans. A large proportion of the deepsea fresh fleet is registered in the port of Ondárroa. In the other ports the majority of the fleet is inshore vessels, although the three cod vessels that are still active are registered in the port of Pasajes.

In the port of Pasajes the small inshore fishing fleet increased as a result of the reduction in the cod fleet and freezer tuna fleet. In order to survive, some of the unemployed crew from other fishing sub-sectors turned to inshore fishing using small vessels. In the port of Pasajes 14 of the 23 registered vessels have a tonnage of less than 20 t.

Graph 4: Changes in the tonnage of vessels registered to the main ports



Source: Community Fishing Fleet Register - Own graph

Given the specialisation of the ports, the changes in the fleet registered to them reflect the dynamics of the different sectors of the fleet. There has been an increase in the fleet in the port of Bermeo, while there has been a reduction in the remainder of the ports. This difference is due to the fact that the freezer tuna sector is the only sector growing, compensating for the departures from other sectors of the fleet.

Table 4: Distribution by ports of inshore landings - Average 2003-2008

PORT	Anchovies	Tuna	Bonito	Horse mackerel	Hake	Sea bream	Mackerel	Other species	Total
Guetaria	27%	27%	39%	13%		55%	31 %	25%	**27%**
Ondárroa	26%	3%	10%	62%	0%	26%	12 %	29%	**22%**
Bermeo	7%	1%	27%	2%		3%	35 %	12%	**19%**
Pasajes	16%	0%	1%	17%	99%	3%	2 %	19%	**14%**
Fuenterrabía	19%	66%	17%	3%	0%	11%	16 %	10%	**13%**
San Sebastián	1%	3%	3%	1%	0%	1%	2 %	3%	**2%**
Lequeitio	3%	0%	2%	1%	0%	0%	3 %	1%	**2%**
Motrico	1%	0%	0%	0%	0%		0 %	0%	**0%**
Armintza			0%	0%	0%		0 %	0%	**0%**
Elanchove				0%		0%	0 %	0%	**0%**
Mundaca				0%	0%		0 %	0%	**0%**
Santurce							0 %	0%	**0%**
Total	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**

Source: EUSTAT - Own table

The fact that a vessel is registered to a particular port does not necessarily mean that its landings contribute to the activity of the port. For example, the freezer tuna vessels registered to Bermeo operate in distant seas, and are rarely seen in the port of Bermeo. For these reasons the activity of the ports should be analysed using the distribution of landings by the inshore fleet (See Table 4).

Although inshore landings are concentrated in Guetaria and Bermeo, the importance of the ports of Ondárroa and Pasajes is increasing due to deepsea fresh landings. These two ports also have a larger number of landing operations. The ports of Ondárroa, Pasajes, Guetaria, Bermeo and Fuenterrabía bring in 70 % of the total income and 75 % of the employment generated by the CAPV fisheries sector. If only the extractive sub-sector is considered, these percentages increase to 93 % and 88 %.

The main fishing ports have fish auctions, freezing facilities, ice factories, dry docks, cranes, weighing apparatus and other services. The CAPV fishing ports that have fish auctions are Bermeo, Lequeitio, Ondárroa, Motrico, Guetaria, San Sebastián, Pasajes and Fuenterrabía.

Between 1980 and 2000, ports such as Ondárroa, Fuenterrabía, Guetaria and Bermeo have modernised, but the infrastructures for managing and handling the fish caught have scarcely improved. The CAPV ports lack the adequate space and facilities to store, process and sell the fish, and the integration of services is lacking. The wharfs are insufficient and the buyers do not have adequate facilities. In particular, the absence of refrigerated water silos for storage on land means that fish has to be stored in boxes with ice. This adds to handling and deteriorates storage conditions. Refrigerated water storage silos would enable the fish to be stored in optimum conditions until it is processed or frozen. In addition there are insufficient facilities for classifying and preparing the species to be processed, mainly mackerel, horse mackerel and sardines.

Moreover, the modernisation of the CAPV fishing ports is not comparable to the modernisation of the ports of Galicia and Cantabria or in France, whose fleets can sell their catches with lower handling costs. It is therefore increasingly common for the Basque fleet to land its catches in other ports.

Bermeo has the largest inshore fleet in the Basque Country and the majority of the freezer tuna vessels are also registered there. Bermeo is also home to a large number of the wholesale export and canning companies and operators associations. It has been modernised with the construction of the external port and a new fish market.

The port of **Guetaria** is one of the most important inshore fishing ports in the Basque Country. As well as export companies and salting, it has mollusc beds, crustacean hatcheries and a heliport. In the port of Guetaria the distance between the wharf and the wholesalers' facilities increases transport costs and increases the length of the handling process.

The port of **Ondárroa** is at the mouth of the Artibai River. There are significant landings of horse mackerel, sea bream, anchovies and other inshore species. It is the main deepsea port in the Basque Country, although it is also home to a large proportion of the small-scale and inshore fleets. It has been modernised with new access, a bridge over the river, a new auction and two docks, and it has a tug.

Fuenterrabía is an important inshore port at the mouth of the Bidasoa River. The infrastructures have been improved and a new dock and a new fish market have been built. It also has shipyards.

The port of **Pasajes** is at the mouth of the Arditurri River. As stated previously, Pasajes has both commercial and fishing activities, with the former predominating. Fishing used to

be very important but it declined along with the fleet and the cod industry, on which it was very dependent.

4. FISHERIES

Fishing activity is inspected and controlled by the *Servicio de Inspección Pesquera* (SIP) (Fisheries Inspection Service), which is part of the Basque Government's Directorate for Fisheries and Agriculture, and by the services of the Spanish Ministry for the Environment and Rural and Marine Affairs (MARM). The SIP has considerably more human resources available to it than does the Ministry.

Catches by the Basque fishing fleet are around 200 000 t per year, concentrated in a limited number of resources. The fisheries sector is very inflexible in terms of reorienting its activity towards alternative resources. In general the fisheries are mixed.

Around 78 % of catches are tuna, 15 % are pelagic species and the remaining 7 % are demersal species in European waters. The economic importance of the resources operated by the small-scale fleet is relatively low, but they are vital for maintaining the populations that depend on fishing.

The populations of the species targeted by the Basque fishing fleet have experienced and in some cases are still experiencing difficulties. The most difficult situations are those of cod in the North-West Atlantic, bluefin tuna, North Atlantic hake and anchovies. Both North Atlantic hake and anchovies have had catches temporarily halted.

In the last 30 years the activities of the Basque fishing fleet have been hugely restricted. Among other events there has been the expansion of the Exclusive Economic Zones (EEZs) in 1977, the changes to regulations prior to the accession of Spain to the European Economic Community and an extremely prolonged transitional period. The reduction of the fleet and the deterioration of fisheries resources have also had an impact.

4.1. Pelagic species

Traditionally small pelagic species have been an important fishery for the Basque Country. However, in recent years their importance has declined. Anchovies (*Engraulis encrasicolus*) and Atlantic mackerel (*Scomber scombrus*) represent the majority of catches of small pelagic species. There were also significant catches of horse mackerel (*Trachurus trachurus*) and sardines (*Sardina pilchardus*).

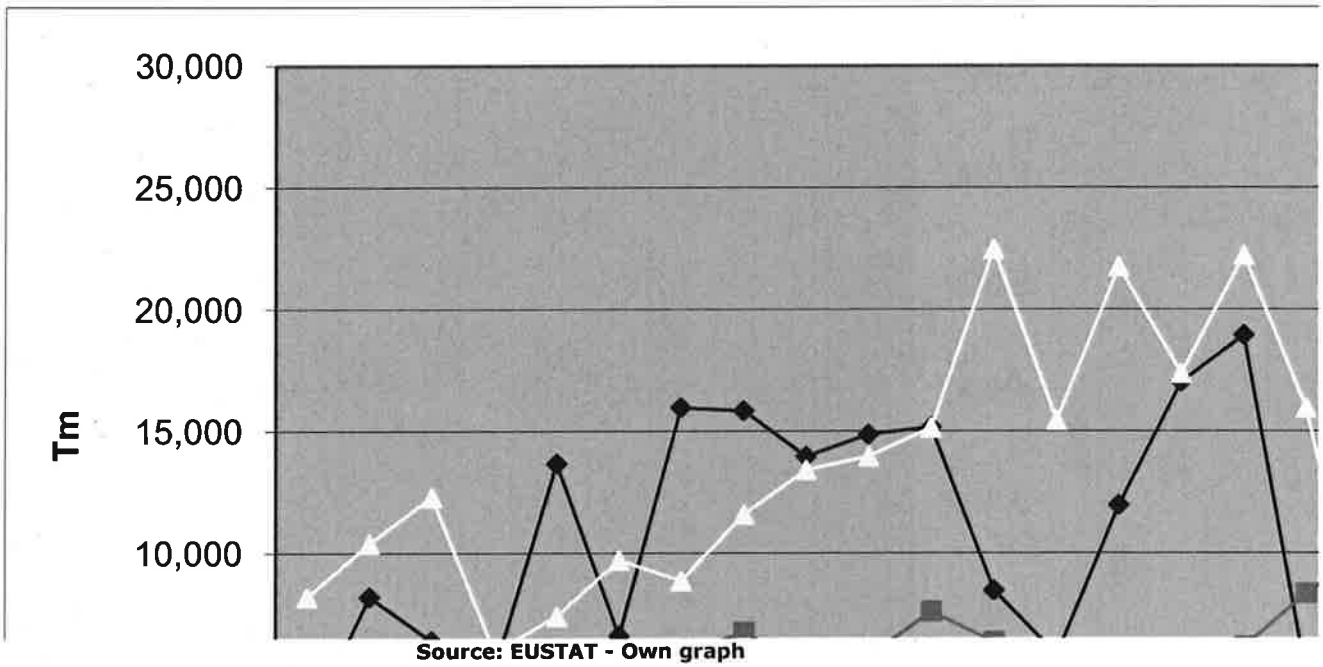
The majority of catches are by the seine fleet in International Council for the Exploration of the Sea (ICES) areas VIIIc and VIIIb. The trawl and longline fleets also catch horse mackerel, and vessels equipped with handlines catch certain quantities of Atlantic mackerel.

The pelagic populations of European waters are in a better state than resources of demersal species. However, populations of anchovies in the Gulf of Vizcaya have deteriorated so much that the fishery had to be closed in 2006. Stocks of horse mackerel and Atlantic mackerel are also overfished.

There have also been temporary problems. For example, catches of sardines and Atlantic

mackerel declined considerably in 2003 as a result of the oil slick caused by the sinking of the *Prestige*.

Graph 5: Inshore fishing - Landings of pelagic species



Source: EUSTAT - Own graph

After being closed for five years, the anchovies fishery in the Gulf of Vizcaya will be reopened in 2010. However, the authorised volumes of catches (5 400 t for Spain and 1 600 t for France) are very much reduced. Taking into account the fact that around 25 % of catches are for fresh consumption, the canning industry will have to continue to be partly supplied by anchovies from outside the Cantabrian Sea.

4.2. Demersal species

The majority of catches of demersal species, whether they are fish, crustaceans or cephalopods, are made by the deepsea fleet, in the waters of the Cantabrian Sea or more distant Community waters. Around 60 % of catches of demersal species are made in Community waters and 40 % in Svalbard waters.

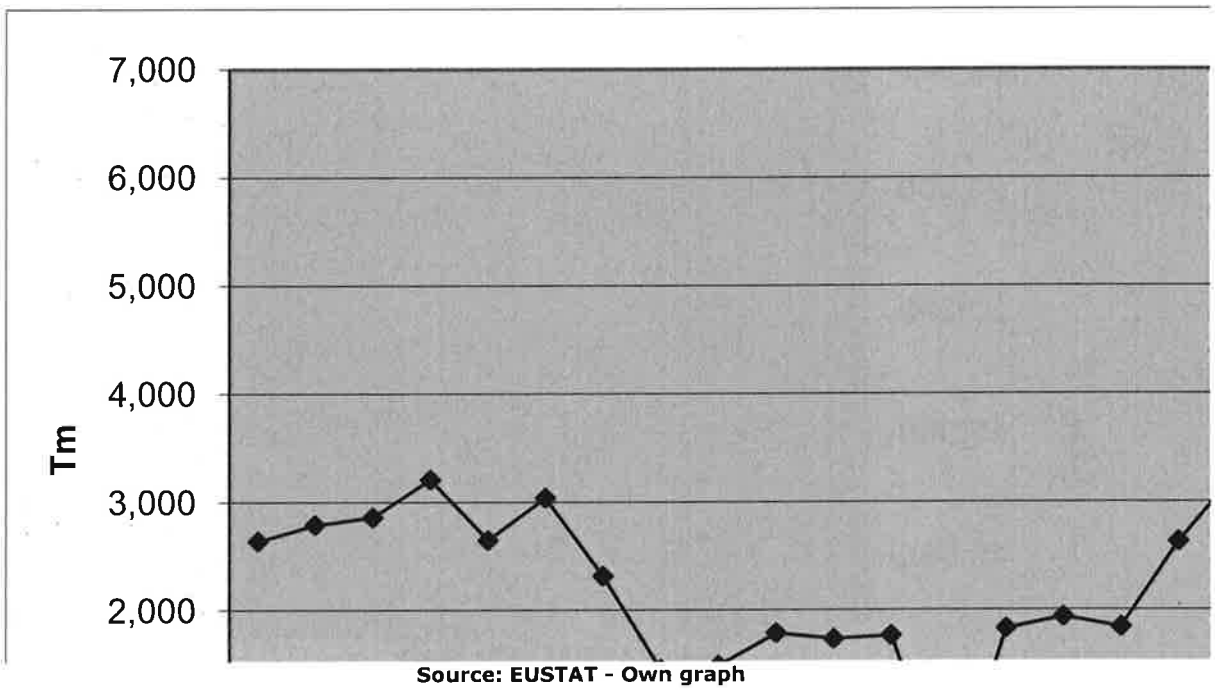
Traditionally, these fisheries were typically coastal. Subsequently the Basque fleet began to fish in more distant waters, as far as the Great Sole and Celtic Sea banks, the Porcupine Bank and the waters of Western Ireland, the waters of North-Western Scotland and even the Rockall bank. Access to these fishing grounds meant that these fisheries were called 'deepsea fresh' as the catches were landed refrigerated.

The main target species is hake (*Merluccius merluccius*), and it is the most important in terms of volume of catches and economic value. However, the fisheries are mixed, and catches of Norway lobster (*Nephrops norvegicus*), monkfish (*Lophius piscatorius*) and megrim (*Lepidorhombus spp*) are significant. There are other secondary catches such as some cephalopods or some deepwater species.

Several of the target demersal species are in a bad state of conservation. In particular,

hake and Norway lobster are the subject of a long recovery plan. North Atlantic hake, meanwhile, is in clear recovery.

Graph 6: Inshore fishing - Landings of hake



Source: EUSTAT - Own graph

The fishing fleet dedicated to catching demersal species has been reduced by 60 % in the last 15 years. This fleet uses a variety of gear: trawl nets, lines and gillnets, each present in different forms.

Certain traditional **trawling** methods such as *'bous'* or *'bakas'* are being converted in favour of twin trawls (for flatfish or monkfish) or the combination of trawl nets with nets with large vertical openings. There are still a number of trawls with *'bakas'*, with multi-species catches. The use of **longlines** is also being converted and is only continuing outside the Gulf of Vizcaya. Some of the vessels that used longlines have changed to using nets with large vertical openings, but also anchored gillnets. There is still some use of longlines in some coastal fisheries. The use of **gillnets** has traditionally been typical of small-scale coastal fishing. However, some longliners have changed to using them for fishing for hake.

Among the demersal species, **cod and associated species** deserve a separate mention due to the specific nature and history of the cod fleet. As well as cod (*Gadus morhua*), the cod fleet also catches Greenland halibut (*Reinhardtius hippoglossoides*) and haddock (*Melanogrammus aeglefinus*). The Basque cod fleet is based in the port of Pasajes.

Traditionally, this fleet has fished in the Terranova fishing ground (NAFO area). The greatest problems in terms of conservation of resources are in the waters of Terranova, as the three populations of cod that are accessible to the Basque fleet are in collapse and subject to a moratorium on catches.

Following the difficulties in this fishing ground, the cod fleet has reduced to only three vessels. Moreover, part of the activity has moved to the North-East Arctic, and in particular to Svalbard (Division IIB of the ICES) and to the Norwegian coast. In fact the Basque fleet

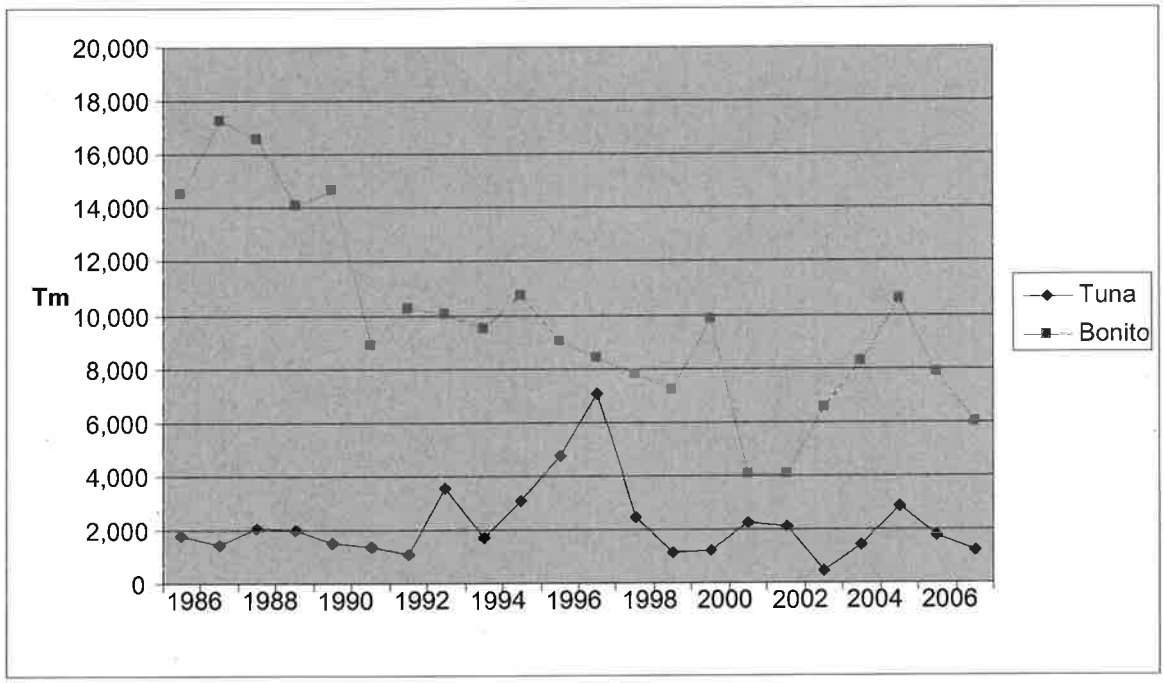
was already operating in this area, although on a seasonal basis. Given the difficulty accessing the fishing grounds of the North-West Atlantic and the poor situation of resources, the Basque cod fleet has gradually moved to the Svalbard area, mainly in summer, to fish its quotas of cod and Arctic haddock.

4.3. Tuna

Tuna is caught both by the inshore fleet and by the freezer tuna fleet. The inshore fleet catches temperate water species in the Gulf of Vizcaya and freezer vessels fish in tropical areas of the Atlantic, Indian and Pacific Oceans. Sixty eight per cent of catches of tuna are made in tropical waters of the Indian Ocean, 26 % in tropical waters of the Atlantic Ocean and 6 % in temperate waters.

The target species of the inshore fleet are albacore (*Thunnus alalunga*) and bluefin tuna (*Thunnus thynnus*). Albacore is one of the species of greatest commercial interest to the Basque inshore fleet. Albacore is caught with live bait or with troll lines in waters of the Gulf of Vizcaya and the surrounding areas. Outside the coastal fishing season, part of the fleet moves to the central Atlantic or the Mediterranean. Resources of albacore are not in such a serious situation as those of bluefin tuna, but catches are gradually reducing.

Graph 7: Inshore fishing - Landings of tuna



Source: EUSTAT - Own graph

Traditionally bluefin tuna is caught using live bait by vessels from Fuenterrabía, and to a lesser extent by boats from Guetaria. The catches come from eastern stock (Eastern Atlantic and Mediterranean). This population is close to collapse and the quotas are the subject of intense negotiations in the International Commission for the Conservation of Atlantic Tunas (ICCAT).

The target species of freezer tuna vessels are skipjack tuna (*Katsuwonus pelamis*), yellowfin tuna (*Thunnus albacares*) and bigeye tuna (*Thunnus obesus*). Forty six per cent of

catches of tropical tuna made by the Basque fleet are skipjack tuna, which is underfished. Yellowfin tuna also represents 46 % of catches. The bigeye tuna of the Atlantic and Indian Oceans is overfished, but only represents 8 % of catches.

Some of these populations have deteriorated due to the use of *Dispositivos Concentradores de Pescado* (Fish Concentration Mechanisms) in the 1990s. These artificial floating objects attract fish from the surrounding area and increase both fishing capacity and catches of juveniles. The Asian longline fleets have also increased their effort on the reproducing stock, especially in the case of bigeye tuna.

Since 1997, the three European organisations of owners of freezer tuna vessels reached an agreement to establish protection areas using floating objects during certain periods. This measure was adopted in 1999 by the ICCAT for use in tropical Atlantic waters.

5. AQUACULTURE

Aquaculture in the Basque Country is very under-developed due to the lack of suitable space. There are scarcely any aquaculture species adapted to the strong currents, waves and temperature of the Cantabrian Sea. Moreover, the meteorological and hydrographic conditions make aquaculture difficult if not impossible in the open sea.

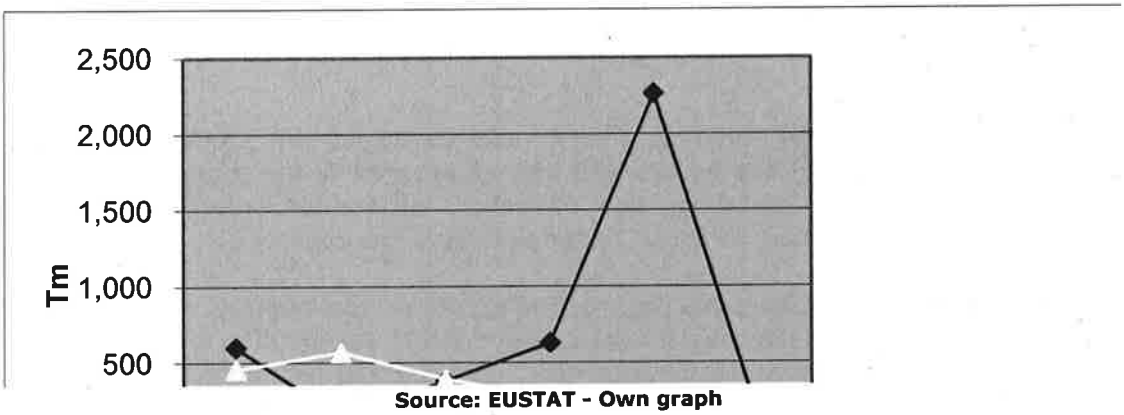
In addition to this, the coast is too rugged. The extensive tidal platform and the absence of clean, wide tidal inlets make coastal aquaculture difficult. Competition for use on the coast (conservation, tourism, beaches, development, etc.) and the lack of availability of coastal land are also limiting factors. The existing production centres mainly use tanks with re-circulation, for both marine and freshwater aquaculture.

Table 5: Aquaculture producers

Province	Enterprise	Municipality	Species farmed
Guipúzcoa	Acuivas	Usurbil	Freshwater eel
Guipúzcoa	Orrua Itxasondo Arraiak, S.A.	Guetaria	Turbot
Guipúzcoa	Piscifactoría de Irún (Diputación Foral de Guipúzcoa)	Irún	Atlantic salmon, Sea trout
Guipúzcoa	Piscifactoria de Rodaballo Culmanor, S.A.	San Sebastián	Turbot
Guipúzcoa	Sociedad de Pesca de Tolosa (Diputación Foral De Guipúzcoa)	Tolosa	Atlantic salmon, Sea trout
Vizcaya	Diputación Foral de Vizcaya	Bilbao	Atlantic salmon, Sea trout
Álava	Nuestra Señora de Ibernalo (NUSI)	Campezo	Rainbow trout, Trout n.e.i.

Under these conditions, there are very few marine and land-based aquaculture enterprises. There have been initiatives for raising clams and other species (octopus, lobster, bass, etc.), although always on a small scale and for research purposes. The regional councils of Guipúzcoa and Vizcaya have production centres for freshwater species, and there is an aquaculture college in Motrico.

Graph 8: Aquaculture production in the Basque Country



Source: EUSTAT - Own graph

Production of turbot has ceased due to the lack of profitability after the Galician fish farms began production. Moreover, the water temperature of the Cantabrian Sea in summer is not the most suitable temperature for farming turbot.

The Orrua fish farm, which until now exclusively farmed turbot, intends to begin farming cod. From February 2010 it will begin raising cod fry, which is the first experiment of its type being conducted in southern Europe. The initiative would take place in Guetaria, with the support of the Centro Tecnológico del Mar y los Alimentos (Marine and Food Technological Centre) (AZTI-Tecnalia) and a Norwegian enterprise.

6. SALES

Fish markets are the primary location for sales, along with export wholesalers, central markets, retailers and supermarkets. The fishing ports with fish markets are Bermeo, Lequeitio, Ondárroa, Motrico, Guetaria, San Sebastián, Pasajes and Fuenterrabía. The ports with the largest number of buyers are Ondárroa (60 large and medium-sized buyers) and Pasajes (40), with much fewer in Bermeo (6), Guetaria (4) and Fuenterrabía (3).

The improvements and renovations to the inshore fleet have not been accompanied by an improvement in the port infrastructures for managing and handling the fish caught. There has been less modernisation to the CAPV fishing ports than to ports in Galicia, Cantabria or France, which have lower handling costs. The Basque fleet is therefore increasingly landing its catches in other ports. For this reason, and due to the gradual reduction in catches, the volumes sold in fish markets are declining.

The fish markets sell both catches landed in the port and fish from other locations, which arrives in lorries. The gradual increase in imports of fish, which for some species amounts to more than 50 % of the total, means that they play a predominant role in setting prices.

Markets are limited to selling fresh fish. They do not add value through initial processing. This makes local production less competitive than imported products, which tend to arrive cleaned and filleted.

The different sectors of the fleet, and in particular the inshore and deepsea fresh fleet, operate independently and with no coordination. The supply from catches of inshore fish is piecemeal and faces problems with competition from increasingly concentrated distribution.

The sales sector is fragmented and has difficulties dealing with increasingly concentrated distribution. The facilities of the wholesalers that operate in the ports are not sufficient for handling the landings at peaks of production. Sometimes the distance between the wharf and the wholesalers' facilities increases transport costs and lengthens the handling process.

Mercabilbao is an important wholesale market. Catches made in the CAPV amount to around 25 % of the volume of fresh fish sold in Mercabilbao. Frozen fish from the CAPV amounts to just over 1 % of the total.

In the Basque Country there are just over 300 establishments selling fish, with more than 1 500 employees. Currently homes prefer to buy from traditional establishments, with supermarkets a less popular choice and hypermarkets even less popular. However, both supermarkets and hypermarkets are increasing their market share.

Sales are changing due to a combination of very different processes:

- the increase in consumption in the restaurant sector
- the discrepancy between the volume of local catches and the increase in demand
- the stagnation of local supply
- the increase in the importance of distribution in supermarkets compared to traditional channels.

7. PROCESSING INDUSTRY

The processing industry in the Basque Country is facing an excess of production capacity. This was generated through significant investments that were funded by the Financial Instrument for Fisheries Guidance (FIFG). The increase in capacity coincided with traditional fishing grounds being exhausted, forcing the industry to use raw materials from other sources. Another element that is negatively affecting the processing industry is the downward pressure on prices exerted by imports of products from third countries with lower production costs.

The canning industry absorbs around 75 % of catches and generates three quarters of employment in the processing sector. Production of frozen fish is also significant and there is some production of smoked fish.

There are 70 enterprises dedicated to fish processing in the Autonomous Community of the Basque Country. Most enterprises are located in Guipúzcoa. The greatest concentration is in the municipality of Bermeo. There is also a cluster of factories in Ondárroa and the adjoining municipalities, Motrico and Berriatúa.

In terms of employment, the small or very small enterprises predominate, although there are still 10 medium or large enterprises.

Table 6: Main indicators of the fish processing industry in the Basque Country - 2007

People employed	1 954
Sales (thousands of EUR)	473 088
Consumption of raw materials (thousands of EUR)	273 525
Investment in material assets (thousands of EUR)	25 288
Net product sales/Person employed (thousands of EUR)	242.1
Staff costs/Net product sales (%)	10.5 %
Consumption of raw materials/Net product sales (%)	57.8 %
Added value/Person employed (thousands of EUR) **(*)**	46.3
Operating excess (millions of EUR) **(**)**	40.9
Gross margin (%) **(***)**	8.7 %

(*) Added value/Person employed = Productivity
(**) Operating excess = Added value –staff costs
(***) Gross operating margin = (Operating excess/ Net product sales)*100

Source: Directorate General for Industry and Food Markets of the Spanish Ministry for the Environment and Rural and Marine Affairs

The canning industry developed from bonito and anchovies, and is very dependent on a small number of species (bonito, anchovies, Atlantic mackerel and horse mackerel). Catches of some of these species are concentrated during the coastal inshore fishing period. Consequently this seasonality is reflected in the workload of the canning industry.

The sector is undergoing major restructuring. In fact, in the last 10 years, 14 enterprises have disappeared that were mainly involved in producing frozen fish. Nevertheless, production by the processing industry has increased.

8. ASSOCIATIONS

There are four producers' organisations based in the Autonomous Community of the Basque Country.

Table 7: Fisheries producers' organisations based in the Basque Country

Province	Location	Producers' organisation (PO)	PO no	Date of recognition	Activity
GUIPUZCOA	San Sebastián	Organisation of Inshore Fisheries Producers of Guipuzcoa **(OPEGUI)**	OPP-5	07/07/1986	Inshore and deepsea fishing
VIZCAYA	Bermeo	Organisation of Frozen Tuna Producers **(OPTUC)**	OPP-2	07/07/1986	Deepsea fishing
VIZCAYA	Bilbao	Organisation of Inshore Fisheries Producers of Vizcaya **(OPESCAYA)**	OPP-6	07/07/1986	Inshore and deepsea fishing
VIZCAYA	Ondárroa	Organisation of Deep-Sea Fisheries Producers of the Port of Ondárroa **(OPPAO)**	OPP-52	04/05/2001	Deepsea fishing

Source: DOCE (98/C 92/03 of 27/3/98) - Own table

Three of these organisations were recognised when Spain joined the European Community. Only the *Organización de Productores de Pesca de Altura del Puerto de Ondárroa* (OPPAO) (Organisation of Deep-Sea Fisheries Producers of the Port of Ondárroa) has been recognised since, in 2001.

Some fishing enterprises in the Basque Country are part of producers' organisations based in other autonomous communities. For example, enterprises such as Aiztzugana (Mundaca, Vizcaya), Igorre, S.L. (Mundaca, Vizcaya) and Nicra 7 (Bermeo, Vizcaya) are members of the ***Organización de productores asociados de grandes atuneros congeladores* (OPAGAC)** (Organisation of the Associated Producers of the Large Freezer Tuna Ships), based in Madrid. Two of the vessels belonging to these enterprises fish in the Atlantic, and two in the Pacific.

Both **OPAGAC** and **OPTUC** are part of an **inter-trade association, INTERATUN**, along with associations from the processing and sales industry, such as the *Asociación Nacional de Fabricantes de Conservas de Pescados Y Mariscos* (ANFACO) (National Association of Manufacturers of Canned Fish and Shellfish) and the *Federación Nacional de Asociaciones de Fabricantes de Conservas* (National Federation of Associations of Producers of Canned Goods).

There are also fishing enterprises in the Basque Country that are members of other associations such as the *Asociación de Empresas de Pesca de Bacalao, Especies Afines y Asociadas* (ARBAC) (Association of Enterprises Fishing Cod and Similar and Associated Species).

The fresh trawlers are members of the ***Asociación de Medianos y Pequeños Pesqueros al Fresco Norte y Noroeste de España* (NORPESC) (Small and Medium-Sized Fresh Fishing Association of North and North-West Spain).** A few years ago there were two more organisations that have become part of producers' organisations.

The ***cofradías de pescadores*** (fishermen's associations) are associations governed by public law with legal personality. They are legally established as a channel for participation and cooperation for the fishing sector with the authorities to defend the interests of the sector and to organise and sell its products.

The fishermen's associations are governed by Law 16/1998 of 25 June on Fishermen's Associations, and Decree 115/2005, of 17 May, on the Register of Fishermen's Associations and Federations of Associations of the Basque Country and the communications regulations. All the fishermen's associations of the Autonomous Community of the Basque Country and its federations are on a register attached to the Directorate for Fisheries and Aquaculture. Being on the register is a requirement in order for them to exist and be legally valid.

Currently the fishermen's associations in the Basque Country are grouped into two provincial federations. Only the associations of eight ports in the province of Vizcaya (Ondárroa, Bermeo, Lequeitio, Armintza, Elanchove, Mundaca, Santurce and Ciérvana) and six in the province of Guipúzcoa (Guetaria, Pasajes, Fuenterrabía, San Sebastián, Motrico and Orio) are officially and individually recognised.

The fishermen's associations are made up of the owners and employees who do the fishing activity and are on fishing boats that are based in ports in the association's region. People who have belonged to them in the last five years of their professional activity and are entirely unable to work or retired are also allowed to be members of the association with a voice but no vote.

9. RESEARCH

Integrated management of marine resources and their subsequent processing into food requires broad and specialised scientific knowledge. Both the authorities (for decision-making) and institutions and enterprises associated with the marine environment require constant information, innovation and technological development.

Fundación AZTI is a technological centre that specialises in marine, fisheries and food research. Its legal personality is as a private, not-for-profit foundation. Its purpose is social development and improving competitiveness in fisheries and associated activities, through research and technological innovation. It conducts specific and integrated projects on managing the marine environment, sustainable fishing and the associated food industry. It has more than 200 employees, and in 2008 its turnover was EUR 17 million.

AZTI-Tecnalia works on the study of marine resources and processing them into quality products in order to contribute to sustainable development of the environment. It also conducts research to promote sustainability in fishing, economic competitiveness in the fleet, the use of responsible fishing practices and to increase the quality and added value of fisheries products.

AZTI-Tecnalia has six lines of research and development:

- fisheries management,
- marine technology,
- innovation in aquaculture technologies,
- food technology,
- integrated management of the coastline
- operational oceanography.

AREAS OF RESEARCH AND DEVELOPMENT

Fisheries Management	
Evaluation of fish and shellfish resources	➢ Developing management models to simulate different management scenarios and catches using tools for evaluation in space and time, for application to multi-species fisheries and different fleets. ➢ Research into new methods of stock evaluation through direct campaigns using ictioplankton, sound and optical methods, and CUFES (*Continuous, Underway Fish Egg Sampler*).
Fish biology	Study of the biological parameters (genetics, growth, reproduction, pathology and parasitation) and behaviour (distribution and migration) in the various commercial species.
Marine ecosystems	Research into the effect of natural variability and climate change on biological productivity, dynamics of plankton, recruitment of resources, adaptation of biological and physical models, etc.
Socio-economics of fisheries	Development of new models of fisheries research including the socio-economic variable for a new method of fisheries management.

Marine Technology	
Innovation of gear and fisheries operation	➢ Development of prototypes for gear and fishing equipment. ➢ Research into the behaviour or species in response to gear, tackle, detection and attraction systems (acoustic, artificial bait, etc.). ➢ Improving the design of fishing gear and tackle through modelling and visual and acoustic monitoring. ➢ Developing equipment for safety and comfort at work on board fishing vessels. ➢ Applying information and communications technologies to fishing operations.
Development of new marine observation technologies	➢ Developing unmanned flying platforms, buoys with instruments, including for evaluating the marine environment, robust sensors for measuring pollutants in situ. ➢ Developing new specific frameworks for studying marine species (*tags*). ➢ Applying software for data processing and ad-hoc user interface.

Innovation in aquaculture technologies
➢ Developing equipment for remote monitoring of aquaculture facilities via sound and optics.
➢ Developing technology for producing fry in incubation facilities.
➢ Improving cultivation facilities in open-sea crates.

Food Technology	
New products	➢ Developing semi-prepared and prepared products based on fish. ➢ Developing fish products with functional properties. ➢ Developing new formats and packaging. ➢ Classifying biomolecules and ingredients present in fish.
Food safety and quality	➢ Developing detection systems. ➢ Developing validation models that guarantee the safety and origin of products. ➢ Preventing food risks.
Developing **new technologies** for the conservation, decontamination and classification of fish.	
Developing procedures for **exploiting and adding value to sub-products.**	

Integrated Management of the Coastline	
Environmental management of the marine	➢ Research into changes in environmental quality on the coastline. ➢ Developing new environmental indicators (**AMBI ©**).

environment	
Environmental impact	➢ Developing models and methods for evaluating anthropogenic pressure and impact on the natural environment.
Protection and recovery of the marine and estuary environment	➢ Developing exploitation models. ➢ Conducting studies for declaring marine reserves and on threatened marine species.

Operational Oceanography	
Development and improvement of predictive models	➢ Research into new biophysical models and optimising them for the assimilation of data. ➢ Developing models for predicting waves and turbulence to improve knowledge of the relationship between the atmosphere and the ocean and the behaviour of sea currents.
Observation of the marine environment	➢ Application of existing and emerging technologies. ➢ Developing information systems for environmental variables based on high spatial resolution satellite information. ➢ Implementing emerging technologies for coastal observation (video surveillance, multi-beam probe, ocean and meteorological stations, SAR - *Synthetic Aperture Radar* -, LIDAR - *Light Detection And Ranging*-, etc.).

NOTES

Chapitre 3 - Données

3.1 Introduction

3.1.1 La Figure 3.1 illustre toutes les données utilisées dans cette Soumission pour définir la marge continentale de la République au titre de l'Article 76 de la CNUDM. Les paragraphes suivants décriront les données ci-dessus en détail, ainsi que les données à l'appui.

Figure 3.1 Données utilisées pour définir la marge continentale de la République. Les traces multicolores indiquent la couverture des traces de données bathymétriques multifaisceaux, les points rouges indiquent la position des postes de vitesse acoustique, les lignes bleues les positions des profils multicanaux des réflexions sismiques et les points verts représentent le déploiement des sismographes de fond de mer (SFM).

3.2 Bathymétrie de ligne de base

Figure 3,2 : Illustration du modèle numérique de terrain au format GEBCO de 1 minute

3. 2.1 Les données bathymétriques de ligne de base sont extraites de la grille 08 de l'atlas numérique GEBCO (Carte générale bathymétrique des océans) qui utilise une grille globale d'arcs de 30 secondes, largement générée en combinant les sondages relevés par les navires dont la qualité a été contrôlée avec l'interpolation entre les points de sondage dérivés des données de gravité obtenues par satellite.

3.3 Bathymétrie multifaisceaux

3.3.1 Une base de données multifaisceaux a été utilisée pour déterminer la limite extérieure du plateau continental au titre de l'Article 76 au large de la République (Figure 3.3).

3.3.2 Ces données ont été acquises par la société d'études océanographiques norvégienne DOF Subsea A.S. à partir du navire hydrographique *Geograph* qui relève les données bathymétriques multifaisceaux spécifiquement pour l'application de l'Article 76 de la CNUDM.

3.3.3 Le vaisseau *Geograph* est équipé de deux systèmes d'acquisition multifaisceaux. Le système Kongsberg-Simrad EM710 est capable d'acquérir des données bathymétriques jusqu'à 2000 m de profondeur, alors que le Kongsberg-Simrad EM122 est capable d'acquérir des données bathymétriques quelle que soit la profondeur. Aucune profondeur dans la zone de relevés bathymétriques n'excédait 4500 m

3.3.4 Les données de vitesse acoustique ont été acquises à des emplacements clés pendant l'étude bathymétrique multifaisceaux. Ces données ont été utilisées pour corriger les variations de la vitesse acoustique dans la colonne d'eau.

3.3.5 Toutes des données multifaisceaux ont été fusionnées en un seul modèle numérique de terrain cohérent avec des cellules de 250 m de côté, illustré à la Figure 3.2. Les détails de cette étude se trouvent au Chapitre 10.3.

Figure 3.3 Couverture bathymétrique multifaisceaux et carte de situation. Légendes identiques à celles de la Figure 3.1

3.4 Normes minimales de l'OHI pour les relevés hydrographiques

3.4.1 La précision en profondeur et horizontale des bases de données multifaisceaux est conforme à la norme de la publication spéciale 44 de l'organisation hydrographique internationale(OHI) pour les relevés hydrographiques (Exigence d'ordre 3) (1998)

ORDRE	**Spécial**	**1**	**2**	**3**
Exemples de zones typiques	Ports, zones de mouillage et chenaux critiques associés avec une hauteur minimale sous la quille	Ports, chenaux d'approche du port, routes recommandées et certaines zones côtières d'une profondeur jusqu'à 100 m	Zones non décrites dans l'Ordre Spécial ou l'Ordre 1, ou zones d'une profondeur jusqu'à 200 m	Zones au large non décrites dans l'Ordre Spécial ou les Ordres 1 et 2
Précision horizontale (95% de niveau de confiance)	2 m	5 m + 5% de la profondeur	20 m + 5% de la profondeur	150 m + 5% de la profondeur
Précision pour les faibles profondeurs ((95% de niveau de confiance)	a = 0,25 m b = 0,0075	a = 0,5 m b = 0,013	a = 1,0 m b = 0,023	Identique à l'Ordre 2
Recherche de fond à 100%	Obligatoire	Requise dans des zones sélectionnées	Peut être requise dans des zones sélectionnées	Ne s'applique pas
Capacité de détection du système	Éléments cubiques > 1 m	Éléments cubiques > 2 m dans des profondeurs jusqu'à 40 m; 10% de la profondeur au-delà de 40 m	Identique à l'Ordre 1	Ne s'applique pas
Espace maximum entre les lignes	Ne s'applique pas, puisque la recherche à 100% est obligatoire	3 fois la profondeur moyenne ou 25 m, la plus grande longueur étant validée	3-4 fois la profondeur moyenne ou 200 m, la plus grande longueur étant validée	4 fois la profondeur moyenne

Tableau 3.1 Résumé des normes minimales de l'OHI pour les études hydrographiques.

3.4.2 Pour calculer les limites d'erreur de précision de la profondeur, saisir les valeurs correspondantes des listes a et b du Tableau 3.1 dans la formule :

$\pm\sqrt{[a^2+(b*d)^2]}$

qui représente la précision minimale de la profondeur en mètres et où

a erreur constante de profondeur, c'est-à-dire la somme de toutes les erreurs constantes

b*d erreur dépendante de la profondeur, c'est-à-dire la somme de toutes les erreurs dépendantes de la profondeur

b) facteur d'erreur dépendante de la profondeur
d profondeur

3.1.4.3 Pour une étude d'Ordre 3, a = 1 m et b = 2,3% de la profondeur d'eau. La précision minimale de la profondeur en mètres pour une étude d'Ordre 3 est indiquée au Tableau 3.2

Profondeur d'eau moyenne en mètres pour une zone	Précision minimale de la profondeur en mètres
200	4.6
500	11.5
1000	23.0
2000	46.0
3000	69.0
4000	92.0
4500	103.5

Tableau 3,2 Précision de la profondeur à la norme OHI SP 44 pour des sondages à différentes profondeurs

3.4.3 La précision horizontale de la position des sondages indiquée pour une étude d'Ordre 3 est de 150 m plus 5% de la profondeur de l'eau (Tableau 3.3). Toutes les précisions sont requises à un niveau de confiance de 95%.

Profondeur d'eau moyenne en mètres pour une zone	Précision horizontale minimale en mètres
200	160
500	175
1000	200
2000	250
3000	300
4000	350
4500	375

Table 3.3 Précision horizontale à la norme OHI SP 44 pour des sondages à différentes profondeurs

3.5 Données sismiques utilisées

3.5.1 Pendant le mois de mai 2011, la société océanographique norvégienne DOF Subsea A.S. a mobilisé le vaisseau océanographique *Geoholm* pour acquérir les données de réflexions sismiques multicanaux ainsi que les données sismiques grand angle sur la marge de la République (Figure 3.4). Ces données ont été collectées spécifiquement pour l'application de l'Article 76 de la CNUDM avec une attention particulière à l'examen de l'épaisseur des sédiments. Des sismographes de fond de mer (SFM) ont été déployés pour fournir des informations supplémentaires sur la vélocité des sédiments.

Figure 3.4 Emplacements des points de relevés de réflexion sismique avec la position de tous les SFM déployés

3.5.2 L'étude sismique multicanaux (MCS) comprend 13 lignes, y compris une longue trace parallèle à la marge (Ligne CD) le long de laquelle ont été déployés les

instruments SFM. Un total de 1800 km de données MCS ont été collectées. Une source acoustique de 0,025 m^3 a été pourvue par une batterie de canons à air et les signaux ont été enregistrés à l'aide d'une flûte de 2400 m et un hydrophone de 192 canaux. Un rapport complet de l'étude se trouve au Chapitre 10.3.

3.5.3 Les données multicanaux ont été traitées au Royaume-Uni par Spectrum Geo ASA. Un rapport complet du traitement des données se trouve au Chapitre 10,4.

3.5.4 Les sismographes de fond de mer ont été fournis par Geopro GmbH de Hambourg, Allemagne et les données acquises ont été traitées par Geopro. Un rapport complet se trouve au Chapitre 10.3.

3.5.6 Les données de profilage de sous-sol haute résolution ont aussi été acquises sur les traces de l'étude bathymétriques multifaisceaux en 2010 (Figure 3.5). Un profileur Kongsberg Maritime SBP120-6 a été utilisé continuellement pendant l'étude à l'appui de l'analyse géologique du fond marin et du sous-sol, ainsi que pour fournir des données utilisables pour définir la continuité de la section sédimentaire. Lorsqu'il y a eu des blancs considérables dans l'acquisition des données, des lignes ont été tracées pour obtenir une couverture continuelle. Les détails du procédé d'acquisition sont inclus dans le Chapitre 10.3.

3.5.7 L'instrument Kongsberg 120-6 couvre une échelle de fréquences de 3 à 7 kHz à un niveau d'émission de 224 dB et comprend une signature de signal compressée, il est compensé contre le pilonnement, le tangage et le roulis. La résolution verticale est de 0,35 ms et la résolution horizontale de 6° x 6°. Son fonctionnement est normalement intégré à celui de l'EM122 à bord du vaisseau *Geograph*. Les données de profilage du sous-sol ont été collectées au format SEG-D et traitées au format SEG-Y par Maritime Zone Solutions Limited. Ces données peuvent être consultées dans la compilation de données jointe au document et présentée comme exemples dans le SIG de la Soumission.

Figure 3.5 Route de navigation du système de profilage de sous-sol, utilisé continuellement pendant la durée des relevées bathymétriques.

3.5.8 Les données sismiques supplémentaires utilisées dans cette Soumission ont été collectées pendant l'étude V2907, effectuée sur le navire océanographique américain *Vema*, du 21 mai 1972 au 12 juin 1972, de Luanda, Angola à Abidjan, Côte d'Ivoire. Voir ci-dessous une section de la trace de l'étude concernée. Les données de canal unique ont été acquises en utilisant le canon à air L-DGO de 410 cm^3 en naviguant par satellite/sextant.

Figure 3.6 Section de l'étude V2907 utilisée dans cette Soumission

3.6 Champ de gravité

3.6.1 Les données de champ de gravité sont utilisées pour compléter les données bathymétriques et sismiques à l'appui de cette Soumission. Les anomalies maritimes de la gravité dérivées des mesures radar altimétriques de la pente de la surface de l'océan sont les principales données permettant d'enquêter sur les structures tectoniques et les marges continentales du globe et ces données de gravité acquises par altimètre ont été combinées avec les rares sondages de navires pour construire les grilles bathymétriques globales. Ces dernières sont très utiles pour obtenir une image générale offrant un potentiel considérable de définition des principales caractéristiques de la croûte terrestre telles que celles qui marquent la limite continent-océan et la géométrie des zones de fracture.

3.6.2 La Figure 3.7 illustre une grille de gravité à l'air libre se rapportant à la marge continentale de la République (extraite de Sandwell et Smith, 2009). Un grand nombre d'articles se sont appuyés sur les données de Sandwell et Smith (1997). L'avantage d'utiliser cette grille est sa cohérence interne et sa fiabilité pour des longueurs de vagues de 20 km et plus.

3.6.3 Les données ont été saisies sur une grille de 0,02° x 0,02° qui a été importée dans ArcGIS en utilisant le système WGS84 comme référence.

Figure 3.7 : Base de données de gravité acquise par satellite par Sandwell et Smith (Version 18.1, 2009)

Chapter 3 - Data

3.1 Introduction

3.1.1 Figure 3.1 illustrates all data used in this submission to define the continental margin of the Republic in accordance with Article 76 of UNCLOS. The following paragraphs will describe in detail each of the above, as well as supporting data.

Figure 3.1 Data used to define the continental margin of the Republic. Multicoloured swaths indicate coverage of swath multibeam bathymetry data, red dots locate sound velocity stations, blue lines are positions of multichannel seismic reflection profiles, and green dots locate the ocean bottom seismograph (OBS) deployment.

3.2 Baseline Bathymetry

Figure 3.2: Illustration of the 1 minute GEBCO Digital Terrain Model

3. 2.1 Baseline bathymetric data is taken from GEBCO_08 Grid (General Bathymetric Chart of the Oceans) Digital Atlas, which is a global 30 arc-second grid, largely generated by combining quality-controlled ship depth soundings with interpolation between sounding points guided by satellite-derived gravity data.

3.3 Multibeam Bathymetry

3.3.1 One multibeam data-set has been used for the determination of the outer limit of the continental shelf in accordance with Article 76 off-shore of the Republic (Figure 3.3).

3.3.2 These data was acquired by the Norwegian survey company DOF Subsea A.S., using the survey vessel M.V. Geograph, which acquired multibeam bathymetry data specifically for application of UNCLOS Article 76.

3.3.3 The M.V. Geograph is fitted with two multibeam acquisition systems. The Kongsberg-Simrad EM710 is capable of acquiring bathymetry in water depths up to 2000m, whereas the Kongsberg-Simrad EM122 is capable of acquiring bathymetry in full ocean depth. Nowhere in the bathymetric survey area were waters deeper than 4500m

3.3.4 Sound velocity data were acquired at key locations during the multibeam bathymetry survey. These data were used to correct for any sound velocity variations in the water column.

3.3.5 All multibeam data were merged into one coherent 250m cell-size digital terrain model, shown in figure 3.2. Details of the survey can be found in Chapter 10.3.

Figure 3.3 Multibeam bathymetry coverage and location map. Key as for Figure 3.1

3.4 IHO Minimum Standards for Hydrographic Surveys

3.4.1 The depth and horizontal accuracy of the multibeam data sets are in accordance with the International Hydrographic Organization (IHO) Special Publication 44 standard for hydrographic surveys (Order 3 requirements) (1998)

ORDER	Special	1	2	3
Examples of Typical Areas	Harbours, berthing areas, and associated critical channels with minimum underkeel clearances	Harbours, harbour approach channels, recommended tracks and some coastal areas with depths up to 100 m	Areas not described in Special Order and Order 1, or areas up to 200 m water depth	Offshore areas not described in Special Order, and Orders 1 and 2
Horizontal Accuracy (95% Confidence Level)	2 m	5 m + 5% of depth	20 m + 5% of depth	150 m + 5% of depth
Depth Accuracy for Reduced Depths (95% Confidence Level)	a = 0.25 m b = 0.0075	a = 0.5 m b = 0.013	a = 1.0 m b = 0.023	Same as Order 2
100% Bottom Search	Compulsory	Required in selected areas	May be required in selected areas	Not applicable
System Detection Capability	Cubic features > 1 m	Cubic features > 2 m in depths up to 40 m; 10% of depth beyond 40 m	Same as Order 1	Not applicable
Maximum Line Spacing	Not applicable, as 100% search compulsory	3 x average depth or 25 m, whichever is greater	3-4 x average depth or 200 m, whichever is greater	4 x average depth

Table 3.1. Summary of IHO minimum standards for hydrographic surveys.

3.4.2 To calculate the error limits for depth accuracy, the corresponding values of a and b listed in Table 3.1 have to be introduced into the formula:

$$\pm\sqrt{[a^2+(b*d)^2]}$$

which represents minimum depth accuracies in metres, and where

a constant depth error, i.e. the sum of all constant errors
b*d depth dependent error, i.e. the sum of all depth dependent errors
b factor of depth dependent error
d depth

3.1.4.3 For an Order 3 survey a=1.0m and b=2.3% of water depth. The minimum depth accuracy, in metres, for an Order 3 survey is given in Table 3.2

Mean water depth for an area in metres	Minimum depth accuracies in metres
200	4.6
500	11.5
1000	23.0
2000	46.0
3000	69.0
4000	92.0
4500	103.5

Table 3.2. Depth accuracy for depth soundings at different depths to IHO SP44 standards

3.4.3 The horizontal accuracy of position of soundings stated for an Order 3 survey is 150 m plus 5% of the water depth (Table 3.3). All accuracies are required at 95% confidence level.

Mean water depth for an area in metres	Minimum horizontal accuracies in metres
200	160
500	175
1000	200
2000	250
3000	300
4000	350
4500	375

Table 3.3 Horizontal accuracy for depth soundings at different depths to IHO SP44 standards

3.5 Seismic Data Used

3.5.1 During May 2011 the Norwegian survey company DOF Subsea A.S. mobilised the survey vessel M.V. Geoholm to acquire multichannel seismic reflection as well as wide angle seismic data on the Republic's margin (Figure 3.4). These data were collected specifically for the application of UNCLOS Article 76 with a particular emphasis on the examination of sediment thickness. Ocean Bottom Seismographs (OBS) were deployed to provide additional sediment velocity information.

Figure 3.4 Seismic reflection shot point locations with location of all OBS deployed

3.5.2 The multichannel seismic survey comprised 13 lines, including a long margin-parallel track (Line CD) along which the OBS instruments were deployed. In total 1800 km of MCS data were collected. A 1500 cubic inch sound source was provided by air gun array, and signals recorded through a 2400m streamer and 192 channel hydrophone. A full survey report is provided in Chapter 10.3.

3.5.3 The multichannel data were processed in the UK by Spectrum Geo ASA. A full processing report is provided in Chapter 10.4.

3.5.4 Ocean bottom seismographs were provided by Geopro GmbH of Hamburg, Germany, and data acquired were processed by Geopro. A full report is provided in Chapter 10.3.

3.5.6 High resolution sub-bottom profiler data was also acquired during the swath multibeam bathymetry survey in 2010 (Figure 3.5). A Kongsberg Maritime SBP120-6 profiler was operated continuously during the survey to support geological analysis of the seabed and sub-seafloor, as well as to provide data of use in the identification of continuity of sedimentary section. Where significant gaps in data acquisition occurred, lines were re-run to allow for continuous coverage. Details of the acquisition system are included in Chapter 10.3.

3.5.7 The Kongsberg 120-6 has a frequency range of 3-7kHz, source level of 224 dB, has a chirp signal signature and is heave-, roll- and pitch-compensated. It has a vertical resolution of 0.35ms and a horizontal resolution of 6x6 degrees. Its normal operation is integrated with the EM122 carried by the MV Geogrpah. Sub-bottom profiler data was collected in SEG-D format and processed into SEG-Y by Maritime Zone Solutions Limited. These data can be found in the accompanying data compilation and provided as examples in the submission GIS.

Figure 3.5 Navigation track for the sub-bottom profiler system, operated continuously throughout the swath bathymetry survey.

3.5.8 Additional seismic data used in this submission was collected during survey V2907, carried out on the US research vessel *Vema*, from 21st May 1972 to 12th June 1972, starting at Luanda, Angola and ending at Abijan, Ivory Coast. Below is a section of the relevant survey track. Single channel data was acquired using the L-DGO 25cu.in.airgun and was navigated by Satellite/sextant.

Figure 3.6 Part of survey V2907 used in this submission

3.6 Gravity Field

3.6.1 Gravity field data is used to supplement the existing bathymetric and seismic data in support of the submission. Marine gravity anomalies derived from radar altimeter measurements of ocean surface slope are the primary data for investigating global tectonics and continental margin structure, and these altimeter-derived gravity data been combined with sparse ship soundings to construct global bathymetry grids. These are of great use in providing overview imagery of considerable potential use in estimating major crustal features such as continent-ocean boundary features, and fracture zone geometry.

3.6.2 Figure 3.7 shows the free-air gravity grid of relevance to the Republic's continental margin (extracted from Sandwell and Smith, 2009). A large number of papers have been based on the Sandwell and Smith (1997) data. The advantage of using this grid is that it provides internal consistency, and reliability for wavelengths of 20 km and more.

3.6.3 The data were gridded at a 0.02° x 0.02° grid, the grid was imported into ArcGIS using the WGS84 as a datum.

Figure 3.7: Satellite derived gravity data set by Sandwell and Smith (Version 18.1, 2009)

(1)任何船舶未经控制塔事先批准，一律不得进出XXX。XXX航道及港池内允许机动船舶横越，但必须经控制塔批准。

(2) XXX航道及港池允许航行的船舶有：事先经XXX港务局核准的定期客轮；核准靠泊XXX发电厂码头及其他经明文核准的船舶；进行疏浚工作的挖泥船或其他船舶。

(3) 驶往XXX航道的船舶最大高度不超过30米，速度不得超过15节，到达内浮标后应慢速行驶。

(4) 驶进XXX航道船舶必须在进港引导浮标与XXX航道1号浮标间通过；驶离必须在进港引导浮标以南140米处通过，然后向左转，同驶往XXX航线。

(5) 每当XXX航道内有运载危险货物的船舶行驶时，其他船舶禁止使用该航道。

(6) 发电厂航道是专为运载燃油船舶设置的，且只可在控制塔的安排下在白天进出，当有船舶驶进时，所有其他船舶应让行。

3. 在XXX航道和港池中的航泊限制：

(1)在XXX航道内船航航速不得超过5节，在连接进港XXX航道至XXX深水港港池及发电厂码头两航道中，船舶应在不影响操纵的情况下，以慢速或最低速度行驶。

(2) 不论在XXX航道或在驶往各码头时，都不准追越。

(1) Without the prior approval from the control tower, no ship can enter into the XXX. Motor vessels are allowed to cross the XXX waterway and harbor basin, but they have to get the approval from the control tower.

(2) The ships allowed to sail in XXX waterway and its harbour basin include: regular passenger liners approved by XXX Port Administration Bureau; ships approved to berth at XXX power plant wharf and other ships that are expressly approved; dredger or other ships undertaking dredging.

(3) The maximum height of ships entering into the XXX waterway is 30 meters and the speed shall not exceed 15 Kn. They should sail at low speed after arriving at inner buoy.

(4) The ships entering into the XXX waterway must pass the guide buoy into the harbour and the XXX waterway buoy No.1; they must pass the place 140 meters to the S of the guide buoy into the harbour when they exit, and then turn to port to enter into the XXX lines.

(5) Whenever a ship with dangerous goods sails in the XXX waterway, other ships are forbidden to use that waterway.

(6) The power plant waterway is designed exclusively for ships carrying fuel oil, and the ships can only go into and out of the waterway in the daytime as agreed by the control tower. When ships enter into the waterway, all other ships should give way to them.

3. Sailing and berthing restrictions for XXX waterway and harbor basin:

(1) The sailing speed of ships in XXX waterway shall not exceed 5 Kn. In the two waterways that connect XXX waterway into the harbour to XXX deep water harbour basin and the power plant wharf, ships should sail at low speed or minimum speed without affecting the operation.

(2) Exceeding speeds is forbidden both in XXX waterway or when ships sail to various wharfs.

2) 선박 안전관리 측면
- 입 · 출항선박의 항행안전을 위한 적시 정보제공의 철저로 안전사고 예방에 만전.
- 해상교통 특정해역내에서의 통항질서 확립(통항분리 위반선박에 대한 지정항로 유도)
- 항계 내 항로 이탈방지 및 과속 운항선박에 대한 권고 및 지시 등의 제공

9-1-4 VTS 통신절차

1) 입항예정통보
대상선박 : XXX항을 입항하고자 하는 모든 선박(내항어선은 제외)
통보시점 : 항계선 도착 1~2시간전
통보내용 : 선명, 호출부호, 항계선 도착예정시간, 목적지, 전출항지

2) 통과통보
대상선박 : XXX항 해상교통관제위치보고선을 통과하는 관제대상 선박
통보시점 : 해상교통관제위치보고선을 통과하는 때
통보내용 : 선명, 호출부호, 위치, 침로 및 속력

3) 도착통보
대상선박 : 입항 또는 이동 보고 후 투묘 또는 접안한 선박
통보시점 : 투묘 또는 접안한 때
통보내용 : 선명, 호출부호, 도착위치 및 시간

4) 출항통보
대상선박 : XXX항을 출항하고자 하는 모든선박(내항어선은 제외)
통보시점 : 이안 또는 양묘시
통보내용 : 선명, 호출부호, 출항장소, 출항시간, 목적지

5) 이동통보
대상선박 : XXX항 내에서 이동하고자 하는 선박
통보시점 : 이안 또는 양묘시
통보내용 : 선명, 호출부호, 현위치, 목적지, 이동예정시간
※ 출항 또는 이동하고자 하는 선박은 10분 전에 출항 또는 이동 예정 통보를 해야 함

9-1-5 적용대상 선박

1) 국제항해에 취항하는 선박
2) 총톤수 300톤 이상의 선박(단, 내항선, 어선은 제외한다)
3) 해상교통안전법 시행규칙 제 2조에 정한 위험물 적재선박
4) 예인선 선열의 길이가 200m 이상인 예인선

2) Regarding Vessel Safety Management

- Ensure accident prevention by providing timely information to arriving and departing vessels for navigation safety.
- Establish navigation order within specific waters of vessel traffic (guide the vessels in violation of TSS to the designated fairway).
- Prevent deviation within the port boundaries and give advice and order on over-speeding.

9-1-4 VTS Communication Procedure

1) Expected Arrival Notification
   · Relevant Vessels: All vessels wishing to enter XXX Port (excluding inward fishing vessels)
   · Point of Notification: 1-2 hours prior to arrival at port boundary
   · Content of Notification: Vessel name, call sign, ETA at port boundary, destination and last port of call
2) Passing Notification
   · Relevant Vessels: Those subject to control and passing through VTS position reporting line at XXX Port
   · Point of Notification: When passing through VTS position reporting line
   · Content of Notification: Vessel name, call sign, position, course and speed

3) Arrival Notification
   · Relevant Vessels: Those mooring or berthing after arrival or movement notification
   · Point of Notification: When mooring or berthing
   · Content of Notification: Vessel name, call sign, arrival position and time

4) Departure Notification
   · Relevant Vessels: All vessels departing XXX Port (excluding inward fishing vessels)
   · Point of Notification: When unberthing or anchoring
   · Content of Notification: Vessel name, call sign, departure position, departure time and destination

5) Movement Notification
   · Relevant Vessels: Those wishing to move within XXX Port
   · Point of Notification: When unberthing or anchoring
   · Content of Notification: Vessel name, call sign, current position, destination, expected time of movement

* Vessels wishing to depart or move must notify 10 minutes prior to departure or movement.

9-1-5 Relevant Vessels

1) Vessels engaged on international voyage
2) Vessels with a total tonnage of 300 ton or more (excluding inward fishing vessels)
3) Vessels transporting hazardous goods as specified in Article 2, Enforcement Regulation of Sea Traffic Safety Act
4) Towing vessels with the length of towing line to be 200 meters or more

Provision of Translation Services Questionnaire

Please complete all questions and, where requested, provide additional documentation. Please ensure additional documentation file names and titles refer to the tender question number and brief content description

The Format of this Spreadsheet must not be altered. Individual cells may be increased in size to accommodate your answer but please do not add or delete columns or rows.

Question Number	Organisation Identity	Tenderer Response	Evaluation Criteria
1	Name of the company in whose name the PQQ was submitted.	Xplanation Language Services	Information

	Specification Questions	Tenderer Response	Score	Weighting	Weighted Score	Evaluation Criteria	SOR or ITT Reference
Question Number							
2	Please confirm which additional languages does your company translate into English from, and out of English into, and which are <u>not</u> in the Authority's Statement of Requirements at Annex A	Xplanation Language Services confirms that it can handle, in addition to the languages mentioned in the SoR, the following languages (from and into English): Afar, Afrikaans, Albanian, Amharic, Aramaic, Armenian, Assamese, Ateso, Azerbaijani, Azeri, Balinese, Baloch, Bandjabi, Bapounou/Eschira, Basque, Bateke, Bathari, Belarusian, Bengali, Berber, Bilen, Bojpoori, Bosnian, Brahui, Bubi, Burushaski, Bwe Karen, Catalan, Cebuano, Chamoro, Chavacano, Chichewa/Cinyanja, Chin, Chukese, Cotocoli, Creole (English), Creole (French), Czech, Dagbani, Dari, Dinka, Dioula, Edo, Efik, Eggon, Egun, English, Eritrea, Erromangan, Ethiopian, Ewe, Fang, Farsi, Fijian, Fukien, Fulani, Ga, Gaelic, Gagauz, Galician, Garifuna, Gela, Guarani, Gujarati, Gur, Haitian, Hakka, Hausa, Hindi, Hindko, Hmong, Hokkien, Hongot, Hungarian, Ibu, Igbo/Ibo, Ijebu, Ilocano, Kabyé, Kachin, Kagoro, Kaje, Kannada, Kapampangan, Kashmiri, Kazak, Khmer, Kikongo, Kikuyu, Kinga, Kinyarwanda, Kirundi, Kiswahili, Kosrean, Krio, Kunama, Kurdish, Kyrgyz, Ladino, Lao, Lengo, Lingala, Luganda, Luo, Macedonian, Malagasy, Malayalam, Malayo-Polynesian, Malinké, Maltese, Maori, Marathi, Mehri, Mende, Mina, Moldovan, Moluccan, Mon, Mongolian, Moshi-Dagomba, Myene, Nara, Ndebele, Nepali, Nigerian, Nurestani, Oriya, Orominga, Pakistani, Papuan, Pashai, Pashto, Phonpeian, Punjabi, Pusktu, Quechua, Saho, Samoan, Sanskrit, Sasak, Serer, Sesotho, Sesotho sa Leboa, Setswana, Shan, Shona, Sindhi, Sinhalese, Siraiki, Slovak, Somali, Soqotri, Sotho (North), Sotho (South), Surinamese, Susu, Swahili, Swati, Swazi, Tahitian, Tajik, Tamil, Tausug, Telugu, Temne, Tibetian, Tigre, Tigrigna, Tigrinya, Tobedawi, Tongan, Tshivenda, Tswana, Turkic, Turkmen, Twi, Urdu, Uzbek, Waray-Waray, Wenzhouhua, Wolof, Xhosa, Xitsonga, Yapase, Yoruba, Zulu		N/A		Information	

3	Please provide details which demonstrate that your proposals meet the Authority's requirements. Please also state what other additional benefits and potential savings, in terms of products or services, your company is including within its ITT response and is offering to the Authority, and which are relevant to the requirement. Please state the advantages of these additional benefits and savings and what, if anything, the Authority has to provide in order to obtain these further benefits	In order to give a thorough undertanding of our technical, project management and robust quality process, Xplanation Language Services has included detailed information on these topics in a separate document. Additional comments: - Technical & Marketing from and into English: Xplanation has translated over 120 million words in 2011 in a wide range of domains and documentation types (manuals, marketing collateral, technical and financial data,...), and in over 400 different language combinations; 160 of which contained English as source or target language. - Language technology: Xplanation has an internal development team of 10 FTE and has developed Tstream, a full translation management system, including translation memory, terminology, translator availability management, validation and feedback applications. - Security clearance: Xplanation has a security clearance certificate		5		Specification Compliance	1.1, 1.3, 1.4, 1.4.1, 1.4.2.1 to 1.4.2.12, 3.9
4	How quickly, in terms of hours or days, can your company source a translator for a new language not already covered in the Authority's Statement of Requirements at Annex A? How quickly can you provide firm pricing (per 1,000 words) for the new language and confirm all delivery lead times can be met? Are there any issues or factors which may delay responses?	Xplanation Language Services has a fixed pricing scheme for all non-SoR related languages and can therefore provide UKHO with firm pricing within a maximum of 2 hours. Xplanation also guarantees to confirm delivery lead time within 2 hours upon receipt of the project. For most common languages Xplanation has resources available within the specific UKHO domains. Factors that may delay response: - Size or complexity of the project leading to longer analysis time - For very rare languages there might be a lack of resources for translations in UKHO domains		N/A		Information	
5	Please confirm if you use "mother of tongue" translators within your organisation and if so, how many "mother of tongue" translators do you have and in which languages specifically. How many of your translators are based abroad and in which countries?	Xplanation is EN 15038 certified and uses only mother of tongue translators and revisers. The majority of our translators is based in-country, meaning they are based in the country for which the translation is intended. Total amount of translators and revisers: 1120 actively used linguists (1 January 2012 YTD).		N/A		Information	

6	How many of your translators have navigational and/or maritime knowledge and experience and can understand maritime terminology and in which languages? Please confirm if your company has translated hydrographic and/or maritime related documents and data. If yes, please provide actual hard or soft copy examples in tender response. Please confirm if your company has undertaken any of maritime related documents or graphics. If so, please state and provide hard or soft copy examples of the work carried out.	For each language combination, we have at least 2 translators with experience in the maritime or hydrographic domain, while our team for the most important language combinations (including French, Spanish, Italian, Chinese, Norwegian, Russian,...) consists of at least 5 translators with relevant experience for each of the combinations. Xplanation Language Services has a contract (since 2008) with the European Union's DG Translation for documents on behalf of the Directorate-General for Maritime Affairs and Fisheries. We do not have permission from the DG Translation to provide any references or sample documents. We mainly translate internal reports and technical studies in the following languages: German, French, Spanish, Greek, Danish, Swedish and Romanian.		15		Specification Compliance	1.3, 1.4.1 & 1.4.2.9
7	Please confirm that your company will provide at least one dedicated translator for each piece of work issued. This applies to any work, unless the lead time is unusually short (less than 24 hours) or larger than normal in volume.	Xplanation is EN 15038 certified and always uses one dedicated translator and one dedicated reviser for a project. The only exceptions are: - UKHO specifically orders translation only - the amount of work is too much to complete for one translator and reviser within the required timeframe		N/A		Information	
8	How many quality assurance checks do your staff carry out on each piece of customer's work, to ensure 100% accuracy is met, and before being sent back to the UKHO. Please provide full details of the processes carried out at each stage/check and who by. Please specify which members of staff are involved, their post titles, and what checks they carry out specifically. State also how stages are audited in the event of issues with a customer's order or complaint i.e. the full audit trail of each order and how lessons are learnt and built in for future reference.	In order to give a thorough undertanding of our technical, project management and robust quality process, Xplanation Language Services has included additional information on these topics. In short, each project is handled by a Project Manager who is in charge of pre-processing, managing on-time delivery and final check. For the translation and revision part, a native speaker translates the project and a second native speaker deals with the revision. Project Manager, translator and reviser are supported by different members of staff, such as terminologists and IT staff. A full explanation can be found in the additional document.		15		Quality Procedures	1.4., 1.4.1, 1.4.2.4 & 1.4.2.6
9	Please provide hard or soft copies of your standard request for quotation form and also your standard invoice which you would be submitting under this Contract. Please state what level of detail you provide and what information is inserted on each form e.g. quotation form - does it include discreet task reference, language from and into, target word count, price per 1,000 words, and any discount for using memory software? With the invoice, does this include similar details and ex VAT and inc VAT pricing, and clearly shows any discount for using memory software and how this has been calculated?	Our standard quotation form and invoice have been added. One of the topics Xplanation prefers to discuss before starting the cooperation is the level of detail required by the customer in quotes and invoices. Xplanation has always been transparent in communication and information. We usually include task details, language combinations, word counts and translation memory reuse, pricing and translation memory discounts, ex and inc VAT, contact person details, department, invoicing entity,...		N/A		Information	
10	With your FTP website, how often do you perform maintenance on the website and on what days? Are you likely to be changing your FTP portal within the contract period? If so please advise when this may happen where known? If not already stated, please confirm FTP website address, Account Manager and IT Manager (for the timed trials process), and provide their full contact details.	Xplanation provides UKHO with Tstream Portal, a secure online Portal to order projects, follow-up of projects, provide feedback,...Maintenance is only performed during weekends and evenings (and is communicated to our customers) to make sure we reach maximum up-time. Xplanation is planning to release the next-generation Tstream Portal in January 2013. Information about the Portal, Account Manager and IT Manager has already been provided to UKHO.		5		Technical Operational Support	1.4.1 & 1.4.2.4
11	Please confirm which languages your memory software can be used for? Are Tenderers aware in advance of any languages where memory software is unlikely to be employed by your translators?	Xplanation confirms that it uses translation memory and terminology software for all languages. If for some reason translation memory or terminology software cannot be used, Xplanation commits itself to inform UKHO in advance.		5		Specification Compliance	1.4.1, 1.4.2.3 & 1.4.2.7
12	Translation timed trial - **Please confirm that you have returned all trial samples by the trial stipulated timescales**	See separate details on Translation Trial - para 3.9 of ITT **Confirmed**		25		Timed Translation trial results	

13	Tender Price (MEAT price)	See Pricing Schedule table below		30		Price	
		TOTAL	**0**	**100**	**0**		

Pricing Schedule	**The Contractor shall provide firm prices per 1000 words (each translation will be based on these prices on a pro rata system), per country, irrespective of delivery timescale for each order.**

Language	Firm Price per 1,000 words (into English) - target words - regardless of turn round time requested	Firm Price per 1,000 words (from English) - target words - regardless of turn round time requested
Chinese Cantonese		
Chinese Mandarin		
Korean		
French		
Russian		
Spanish		
Indonesian		
Norwegian		
Croatian		
Brazilian Portuguese		
Japanese		
Greek		
German		
Portuguese (European)		
Italian		
Romanian		
Dutch		
Taiwanese		
Serbian		
Arabic		
Polish		
Thai		
Burmese		
Lithuanian		
Vietnamese		
Serbian Latin		
Persian		
Cambodian		
Swedish		
Malay		
Estonian		
Georgian		
Welsh		
Turkish		
Danish		
Latvian		
Bulgarian		
Finnish		
Icelandic		
Ukrainian		
Slovene		
Hebrew		

Tagalog		

Translation Memory Software		
Match Types		% Discount - Tenderer to confirm what discount applies
Repetition	The same text is contained elsewhere in the document	
100% match	Text translated previously and contained partly in the translation memory	
90% - 99% match	Text translated previously and contained partly in the translation memory	
80% - 89% match	A similar text was translated using the memory tools previously and is available in the memory	
60% - 79% match	A similar text was translated using the memory tools previously and is available in the memory	
1% to 59% match	A similar text was translated using the memory tools previously and is available in the memory	

	Examples:	Pricing
A	100 word document (Spanish into English) with 75 words translated by memory software i.e. 60% to 79% match	
B	1,000 word document (Russian into English) with 850 words translated using memory software i.e. 80% to 89% match	
C	2,000 word document (Japanese into English) with 1,000 words translated using memory software i.e. 1% to 59% match	

Note: Tenderers shall clearly state by way of priced examples above how the % discount will be applied and how much discount in terms of value will be taken off total price

QUOTE

<register the Quote n° you got in xBilling weblinks>
<register date as xx/xx/xxxx>

<select client name if available or overwrite this

xplanation
we care about your words

<first select the addressee typ	<select a contact person>
Phone	<linked to XLS contact selection>
E-mail	<linked to XLS contact selection>

Client Contact	<select client contact if available or overwrite this message>
Phone	<linked to selected contact or overwrite this message>
E-mail	<linked to selected contact or overwrite this message>

Project title	<xxxxx>

Project tasks	<xxxxx>

Translation and Revision (1)		Total Word Count	Price per word (EUR)	Repetitions 40% price	TM 100% matches 40% price	Fuzzy matches 70% price	No matches 100% price	Amount in EUR (VAT excluded)
Source	Target							
<xxxxx>	<xxxxx>						0	0.00
<xxxxx>	<xxxxx>						0	0.00
<xxxxx>	<xxxxx>						0	0.00
<xxxxx>	<xxxxx>						0	0.00
Subtotal translation								**0.00 €**

(1) Xplanation services are compliant with the EN 15038 Standard. This European standard for translation services was approved by the European Committee for Standardization on 13 April 2006. Unless otherwise stated every translation delivered by Xplanation will have been revised. The reviser shall always be a person other than the translator.

DTP	#	Price per unit (EUR)		Amount in EUR (VAT excluded)
<xxxxxx>				0.00
<xxxxxx>				0.00
Subtotal DTP				**0.00 €**

Process Management fee		0.00%		**0.00 €**

Total amount	**0.00 €**

Remarks	

Delivery Deadline	
Estimate: <x> to <x> working days after approval of the quote. The deadline can always be negotiated if the translation is urgent.	

Invoicing Information	
Company name	<linked to client name or overwrite this message>
Addressee	<linked to client name or overwrite this message>
Address	<linked to client name or overwrite this message>
	<linked to client name or overwrite this message>
	<linked to client name or overwrite this message>
Client reference - PO n°	
VAT number	<linked to client name or overwrite this message>

Terms of Payment	
30 days after date of invoice Prices are VAT excluded. VAT will be added on all costs if applicable.	

This quote applies until	<first register date of quote document - at the top, left>

Client approval	
By signing this Quote document or by confirming the approval of this Quote document via e-mail or via the Xplanation web quote interface, the Client acknowledges that this Quote document becomes a Purchase Order. The general terms and conditions of sale applicable to this Purchase Order are available on www.xplanation.com/gtac/be. A copy of the general terms and conditions is availableupon request and free of charge.	

Xplanation Language Services NV Interleuvenlaan 86 B-3001 Leuven Belgium

phone + 32 (0)16 39 75 51 fax + 32 (0)16 39 75 52 www.xplanation.com VAT BE 0475 425 209

#REF!

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we care about your words

Invoice n°:	**2011/**
Date:	xx/xx/xxxx

#REF!
#REF!
#REF!
#REF!
#REF!
#REF!

Your reference: #REF!
Your VAT no.: #REF!
Customer no.: #REF!

Description	Amount
	#REF!
Translation services delivered during the past month (details enclosed)	0.00

#REF!
#REF!
#REF!

Total: 0.00 #REF!

#REF!

#REF! #REF!

#REF!

#REF! **#REF!**

Due date: **#REF!**

Payment not later than due date with reference: #REF!

#REF!

For questions regarding this invoice, please contact us:
invoicing@xplanation.com - tel. + 32 (0) 16 397 551

Xplanation Language Services NV
Interleuvenlaan 86, B-3001 Leuven
België

phone + 32 (0) 16 397 551
fax + 32 (0) 16 397 552
info@xplanation.com

VAT BE 0475 425 209
Cmpy no 0475 425 209
www.xplanation.com

ANNEX A - Tenderer's Commercial Sensitive Information Form

ITT Ref No:
Description of Contractor Sensitive Information: - Individual pricing for language combinations - Translation process (chapter 5 in UKHO_Xplanation process-technology-quality.pdf)
Reference(s) of where can be found in ITT response: - Questionnaire & Pricing schedule.xls - UKHO_Xplanation process-technology-quality.pdf
Explanation of Sensitivity:
Details of potential harm resulting from disclosure: Disclosing the information mentioned above could harm our competitive edge on pricing and processes.
Period of Confidence (if applicable):
Contact Details for Transparency/Freedom of Information matters: Name: Position: Address: Interleuvenlaan 86, 3001 Leuven, Belgium Telephone Number: E-mail Address:

xplanation

HA294/005/167

United Kingdom Hydrographic Office

Xplanation Language Services
Interleuvenlaan 86, 3001 Leuven, Belgium

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1 About Xplanation Language Services

1.1 Xplanation in a nutshell

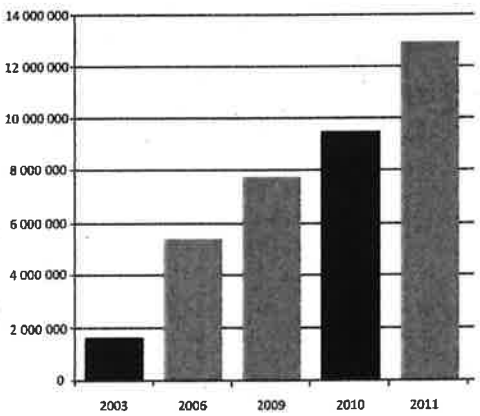
Xplanation, ranked amongst the global Top 50, is a leading provider of professional translation solutions in government, international organisations and public administration domains. Xplanation currently employs over 80 industry experts and is headquartered in Leuven, Belgium, with operational branches in China, Denmark, France, Sweden, Switzerland and the US.

Xplanation has been present in the translation business since 2001, has a worldwide network of translation partners and is certified according to the EN 15038 quality standard, ensuring consistency and traceability.

We are driven to make translation an easy and efficient way for the government and international organisations to communicate not only to its stakeholders but also on an international level. We fit into the bigger picture, but we also care about your every word.

1.2 Facts and Figures

Turnover (EUR)



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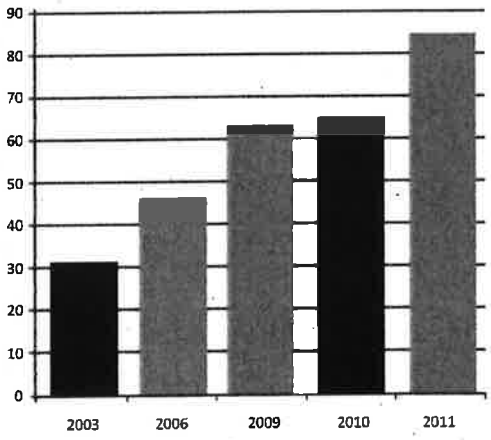


1.3 Company information

Address HQ	Interleuvenlaan 86 3001 Leuven Belgium
Tel. number	+32 16 397 511
E-mail	info@xplanation.com
Opening hours	Office hours are from Monday to Friday, 8 a.m. to 7 p.m. (Brussels local time). For specific projects, Xplanation can be reached during weekends and holidays.

1.4 Management team

Chief Executive Officer

Xplanation is led om HQ in Belgium. Before joining Xplanation, ned extensive experience in the banking sector having worked in different management positions at Belgium's biggest bank, KBC.

tions & Technology Officer

has been in charge of the Group's Operations and Technology since 2010. Before taking up this key position, cquired his expertise in translation process control as head of our internal language technology department for several years.

i, *Chief Corporate Development Officer*

is responsible for Corporate

Development at Xplanation and has over ten years' experience in the translation industry. Prior to taking on this new role in the con the sales team across our branches and managed the tendering process for strategic accounts for over four years.

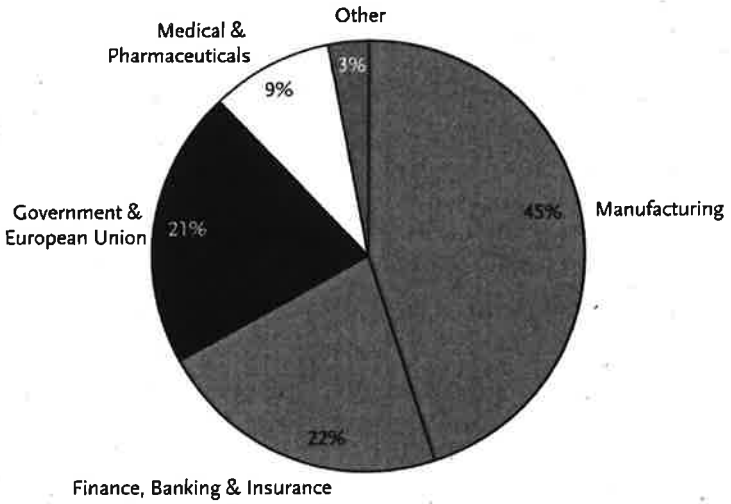
hief Sales & Marketing Officer

versees global sales and marketing. Before joining Xplanation, r years at Moravia and twelve at Lionbridge Technologies, both leading companies in the outsourcing and localisation industries, where she held senior management roles.

1.5 Experience

Xplanation is a leading provider of translation solutions across the world's most important industries. To effectively meet the unique requirements of each of these industries, we have dedicated teams with experts in the field whose primary focus is to serve the needs of our clients.

Our four core businesses are:



Domains of exper se

- Agriculture and Rural Development
- Climate Action
- Competition
- Economic and Financial Affairs
- Education and Culture
- Employment, Social Affairs and Equal Opportunities
- Energy
- Enterprise and Industry
- Environment
- Executive agencies
- Home Affairs
- Maritime Affairs and Fisheries
- Mobility and Transport
- Health and Consumers
- Information Society and Media
- Internal Market and Services
- Justice
- Regional Policy
- Research
- Taxation and Customs Union

Xplanation has translated a wide variety of documents for the European institutions and agencies. We have translated a significant number of communication documents, decisions and directives for the European Commission, and numerous public consultations and brochures for the CdT. Furthermore, we have translated both legislative and non-legislative European Parliament texts, such as monolingual or multilingual amendments, written and oral questions, verbatim reports, minutes, draft agendas, working papers, petitions, resolutions and draft or final reports.

File formats

Xplanation handles translations in all possible formats, including files pre-processed with, for example, Star Transit and Trados. Common file formats include, amongst others, .xml, .html, Microsoft Office, .rtf, InDesign, QuarkXpress, Framemaker, .php, .rc, .pdf, .tmx, .xliff and other scanned formats.

2 Standards and Policies

2.1 EN 15038 — The European Standard for Translation Services

Xplanation Language Services obtained EN 15038 Quality Certification in June 2008.

Approved by CEN (the 'European Committee for Standardisation'), the purpose of this European standard is to establish and define the requirements for the provision of quality services by translation service providers.

The standard offers clients of translation service providers a description and definition of the entire service. Providers are additionally given a framework on which to construct procedures to meet market needs.

The standard, which can be compared to ISO 9001, specifies requirements with regard to human and technical resources, quality and project management, the contractual framework and service procedures.

See Annex 7.1 for our EN 15038 certificate granted by Inspecta on 26 June 2008. During the latest follow-up audit, which took place on 19 June 2012, Inspecta confirmed our certification.

2.2 Security clearance

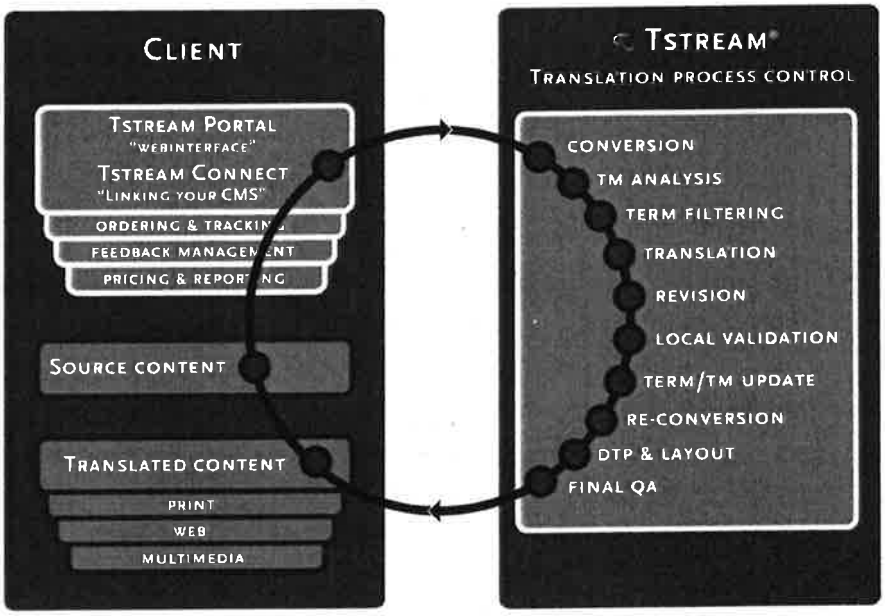
Security clearance is a status granted by the national safety authorities to a company (facility clearance) and/or individuals allowing them access to classified information or to restricted areas after completion of a thorough background check and setting up well-defined procedures for handling classified information. Xplanation Language Services has been granted security clearance up to 'Secret' level. Our clearance certificate can be found in Annex 7.2.

3 Tstream® Technology – translation process control

3.1 Why technology is so important

Today, translation is much more than converting a text from one language to another. Working with complex file formats, reusing old material, maintaining consistent terminology, connecting to a content management system, and having your local agents validate translated material are just a few of the challenges translation companies face every day.

Providing a secure environment that brings together all these steps and processes is of the utmost importance. We therefore developed Tstream®, a technology-driven translation solution which facilitates highly efficient translation processing and system-based quality and process control. Tstream® integrates ordering, quoting, project management, translation, revision, local validation and client reporting into a single highly efficient process. Furthermore, Tstream® can be customised to your specific needs, allowing us to provide you with a flexible solution.



3.2 Tstream® Portal

Tstream® Portal, a web-based interface requiring no installation, is our tool for secure data exchange allowing you to order new and receive translated projects in a fast, efficient and secure way.

Tstream® Portal gives you the opportunity to order new projects, making sure all project parameters, files, reference materials, accounting and budget data are sent to Xplanation. Using this portal, you can also define the necessary information regarding the local validation, i.e. client review, process, including the names and contact details of your local agents in charge of the validation process (see Chapter 3.7 for more information).

An overview of all current translation requests and all jobs delivered during a certain period can be seen, at any time, using Tstream® Portal. For example, you can view information on reference numbers and the date and time of translation requests, source and target languages, requested and agreed delivery dates, purchase order values and the percentage of reusable translation segments.

With each delivery of a translation project, a link to a secure webpage with an evaluation form is included. Your evaluations give us immediate feedback on how we perform and if changes to terminology, for example, are required. Over time, your input can genuinely improve the quality of the translations of your texts, as well as our service to you.

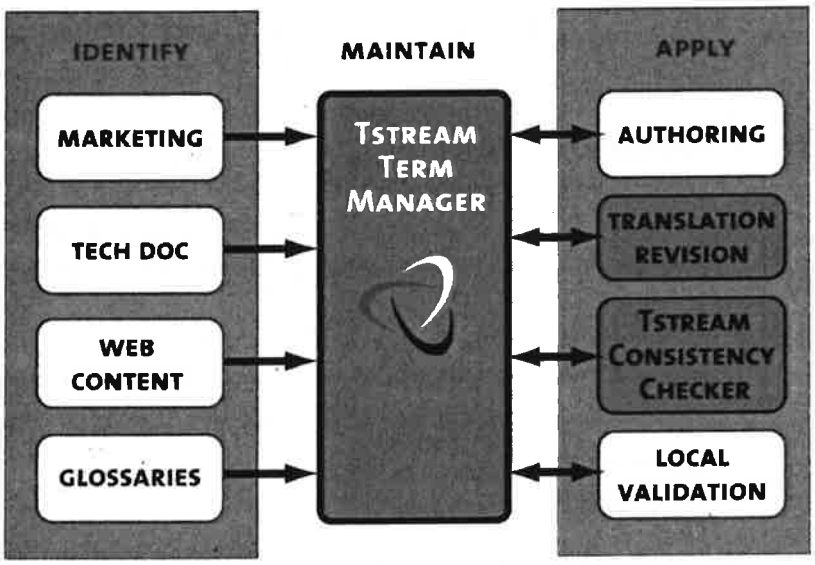
All information and data sent via Tstream® Portal is used to provide you with the necessary reporting for budget control, project follow-up and quality assessment. Whether you are the department head who needs detailed information for cost allocation or the marketing manager who wants to know the quality level and satisfaction rate, Tstream® Portal offers you the necessary functionalities to achieve your goal.

3.3 Tstream® Term Manager

Many aspects of language are free and vary according to stylistic preferences; terminology, however, is not. Terminology defines your texts, your area of expertise and even your company brand.

Incorrect and unknown terminology can be the shortcoming of many translations, yet this can be rectified given the appropriate tools, preparation and management of the terms and phrases that frequently appear in your texts.

The Xplanation approach to terminology is primarily aimed at enhancing the quality and cost optimization of the translation process. This means that your customised terminology will include frequently used terms and phrases that are representative of your area of expertise, as well as your own specific product and brand names.



The Tstream® solutions for identifying, maintaining and making terminology available throughout the translation process are ideally suited to guarantee a consistent usage of the terminology that matters to you.

3.4 Tstream® Translation Memory (TM)

A TM system is a database that stores all your previously translated materials. Each source sentence is stored together with the equivalent target language segments in a translation memory database. Every time you request a new translation, the TM system checks the new source text against your existing translation memory.

Tstream® TM is TMX[1] compatible and can easily be moved to other translation memory systems, such as Trados and Across. The translation memories remain the sole property of the client and can be sent to you periodically, or upon request.

Our TM structure is centrally managed with separate storage for each client in a secure housing centre.

- 100% match:
  A source segment that has an identical match in the translation memory.
- Repeated match:
  A source segment that does not yet exist in the memory but appears several times in the source text. It only requires translation once and will subsequently become a 100% match.
- Fuzzy match:
  A source segment that does not have an identical match in the memory, but does have a close or partial match that can be easily adapted.
  An example:
  - New sentence: "EMEA headquarters are located just outside London"
  - Sentence in TM: "EMEA headquarters are located just outside Paris"

[1] TMX (Translation Memory eXchange) is an open xml standard for the exchange of translation memory data created by computer-aided translation and localization tools.

- No match:
  A source segment for which no 100% match or high-quality fuzzy match exists in your translation memory.

As a client, you benefit from the use of translation memory in the different aspects of translation: costs, time and quality.

- A reduction in your translation costs, resulting from matches, that increases as the size of the translation memory grows over time. A 100% match requires less effort from the translator and reviser compared to a no match, therefore reducing the cost considerably.
- A reduction in translation time, again resulting from matches, which means your translations can be with you after increasingly shorter periods of time. The more sentences available in the translation memory, the faster the translator and reviser can work. This will speed up the time-to-market.
- Greater levels of consistency and accuracy, again via reusing existing translations, meaning that your texts all follow a certain style, a real factor in establishing your company image.

3.5 Tstream® Editor

Tstream® Editor is the tool used by all translators and revisers to translate and revise projects. While the Xplanation translation process system is web-based, Tstream® Editor is designed for local or server-based use by translators and revisers. The tool is easy-to-use and combines the Tstream® Translation Memory, Tstream® Consistency and terminology functionalities.

The view of the tool is laid out in such a way that the user's attention is drawn to all the relevant aspects for the segment in question at any given moment. The translator is provided with suggestions deriving from the translation memory. In addition, suggestions for specific terminology appear separately to ensure focus is given to this key translation factor.

A reviser, in addition to the translator's final version, can also see these suggestions, allowing him or her to follow the translator's

decision-making process. In addition, the translation segments are individually colour-coded according to the segments' match rate with the translation memory. This helps the reviser to ensure consistency across a series of texts and within individual ones.

An in-built spellchecker and consistency checker automatically search the text for basic errors and key discrepancies between source and target texts. This not only improves the accuracy and quality of your texts, but also saves time and facilitates the translation and revision processes.

3.6 Tstream® Consistency

Tstream® Consistency automates quality control aspects of the translation process. It directs the attention of the translator or reviser, who takes the final decision, to a number of discrepancies that might occur between the source and target versions of a translated document. Tstream® Consistency primarily looks at three possible sources of quality-related issues:

- Target language consistency
- Bilingual equivalence
- Verifying TM matches
- Terminological consistency

Target language consistency:

Target language internal consistency checks focus solely on the rendering of the target text, without the need to refer to the source text. Most of these checks relate to the correct usage of spaces/blanks, punctuation and/or special symbols.

Bilingual equivalence:

Bilingual equivalence checks compare the source and target texts, assuming that the presence of a given phenomenon in one language also entails the presence of some equivalent in the other language.

Verifying TM matches:

Tstream® Consistency allows numerous checks on 100% matches and fuzzy matches; e.g. fuzzy matches in the target text that haven't been changed.

Terminological consistency:

Finally, terminological consistency checks that a target language equivalent appears in the translated sentence for every term provided by the client glossary and encountered in some form or other in a sentence in the source language.

The terminology check also highlights singular/plural forms of nouns, verb conjugations and different forms of adjectives if appropriate.

In each case, a sentence pair that does not satisfy the conditions set by a given type of check will be included in the resulting report. It is possible to deactivate and/or reactivate individual rules or sets of rules.

3.7 Tstream® Validator

Local expert validators were not fully integrated in the translation process for a long time. This caused delays in delivery and TM and terminology updates, as well as requiring extra workarounds to complete the job. We have now developed an online tool for your local validators. At Xplanation they are part of the automated translation process providing client-specific knowledge on products and branding.

3.8 Tstream® Connect

Most systems follow the "export – translate – import" strategy. This way the content is brought out of your system to be translated and afterwards re-entered in to your system, in the relevant language.

This approach provides you with more freedom on how to deal with translations, but can be a cumbersome and overly manual process —

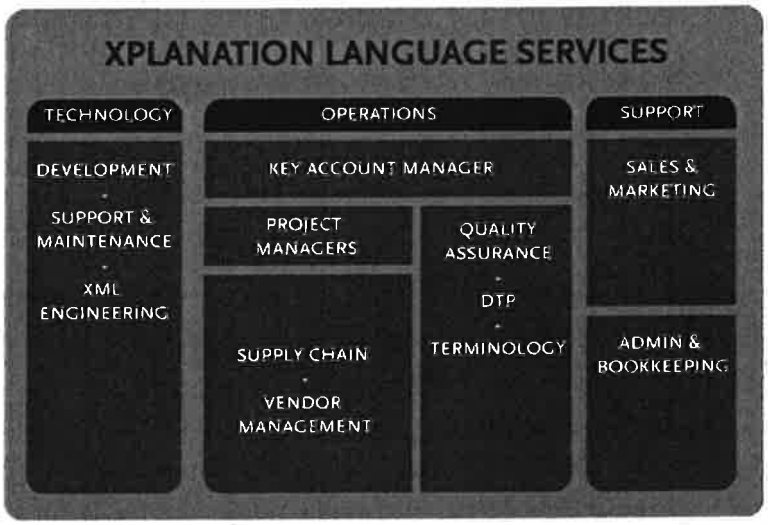
the export feature will usually have to be designed and developed by you in any case. Complete automation is a simple step in this process, saving significant amounts of time later.

At a certain point in your exporting algorithm you define to where the files are to be copied out of your system. The copy instruction can be replaced with a simple call to Xplanation's Tstream® Connect, a set of web services that allows you to directly send the file to Tstream® with all the necessary information.

The technology behind this process is SOAP, or "Simple Object Access Protocol", a protocol for exchanging xml-based messages over computer networks.

When you indicate inside your system that certain content is needed in different languages, the workflow inside your content management system will send us the files. Once the translation is complete, your system automatically receives the translated files and puts it in the right place.

4 Team and Account Management for UKHO



The structure of our company, and our operations department in particular, is focused entirely on delivering the best possible customer service in each of our domain expertises.

Our Operations department is therefore divided into several teams, each led by a Team Leader and focused on a customer-specific domain, such as the Public Sector, Manufacturing, Finance and Legal, Life Sciences etc.

4.1 Key Account Manager

The Key Account Manager oversees all work that Xplanation Language Services performs with UKHO, ensuring that all projects and communication run smoothly. Further aspects of the work can be summarised under the following **key ac vi es**:

- supervising the Project Managers within the team and supporting them to find solutions to deal with complex projects and issues;
- communicating closely with the stakeholders of UKHO to enhance cooperation;
- improving the efficiency of the daily workload;
- creating and enhancing checklists and other procedural support tools;
- training new members of the team;

- leveraging the team's support structure to review ongoing projects and improve the level of service provided to UKHO;
- managing (pre- and post-)project meetings to discuss project planning and fix project-specific support from other parties involved, such as terminologists, domain experts, lawyer-linguists, computer linguists etc.

4.2 Project Managers

In order to handle the volume of translation, the project management team that runs the daily operations for UKHO will consist of 2 Project Managers. Project Managers are required to:

- plan each translation assignment;
- select suitable partners to perform the translation and revision;
- prepare the translation kits and tools required by these partners to carry out their work adequately.

Moreover, Project Managers are in charge of:

- respecting deadlines;
- fulfilling technical requirements;
- guaranteeing overall quality;
- dealing with unforeseen issues;
- maintaining high levels of communication.

Project Managers are familiar with, or are trained in, the way in which UKHO-specific documents have to be translated, the models and templates that have to be used and complied with, and other UKHO translation-related issues, in order to meet the UKHO quality requirements.

4.3 Translators and revisers

Xplanation Language Services has both in-house and external translation and revision resources. We have built a pool of translators and revisers with the relevant expertise in the domains for UKHO.

Senior resources are an important part of our pool of partners. They not only take care of very specialised translations and revisions, they also assist our project team in keeping our style guides, terminology databases up to date with new information, guidelines and terminology.

Translators and revisers are also provided with training in the form of webinars. During these webinars, the Key Account Manager and Quality Manager discuss terminology updates in the respective target language and updated processes/procedures, or comment upon the feedback provided by UKHO. Our senior translators and revisers are also asked to participate in these sessions, sharing their experience and knowledge with the team of translation partners.

Each translator and reviser goes through a stringent selection procedure and evaluation period, allowing only the best resources to pass. All our resources are EN 15038 compliant. More information on our selection procedure, evaluation period and continuous development can be found in Chapter 4.4.1 and Annex 7.3.

4.4 Support functions

4.4.1 Supply-Chain Manager

The supply-chain team manages our pool of partners and, together with the Quality department, keeps a close eye on the professional competences of our translators, revisers, DTP specialists, etc. Strict entry criteria are coupled with continuous monitoring of delivered quality.

Xplanation Language Services is certified according to the European Standard for Translation Services, EN 15038. Compliance with quality standards not only governs the service we provide to our clients, but everything that contributes to that service, starting with forming the quality-compliant partner team.

The supply-chain team's responsibilities include:

- recruiting and testing new resources;
- contract management;
- training approved resources in the tools and procedures at Xplanation Language Services;
- introducing approved resources into the operational environment.

More information on our supply-chain management can be found in Annex 7.3.

4.4.2 Quality Manager

The Quality Manager oversees continuous quality improvements and is responsible for:

- training and supervising translators, revisers and terminologists;
- improving translators' quality;
- formalising feedback;
- enhancing UKHO's style and translation guides and supervising the creation of general and customer-specific terminology databases;
- setting up internal and customer meetings at regular intervals.

Communication is key to quality!

4.4.3 Terminologists and external experts

Xplanation Language Services has **two types of terminologists**:

- terminologists who purely focus on the linguistic aspect of terminology;
- terminologists who create the structure and substructures of terminology databases and perform complex term extractions.

Terminologists are asked to participate in the translation process to create or enhance UKHO-specific term databases and to provide support during the process in case of terminology issues.

Finally, the terminologist is responsible for updating the terminology databases using feedback from our partners and UKHO.

4.4.4 Desktop Publishing (DTP) specialists

Our in-house and external DTP specialists take care of layout and formatting in all file formats and languages, including right-to-left languages such as Hebrew. Our DTP specialists work in a variety of applications, including InDesign, QuarkXPress, AutoCAD, Illustrator and FrameMaker.

4.4.5 Technology team

Support and maintenance

The Support team deals with system administration, software and hardware issues, and provides technical support to all branches of Xplanation Language Services.

Development

All Tstream® technology has been developed by our development team. The Development team is therefore also responsible for the continuous updating, improving and developing of Tstream® technology, for both internal and external use.

Linguis c engineering

Nowadays translation is much more than converting a source text into one or more target languages. On many occasions, complex or client-developed software applications and file formats, such as .xml, .sgml, .php or resource files are used. To get the files pre-processed and ready for translation, our linguistic engineers assist in this process. They take care of specific converters that export all translatable text into a format ready for Translation Memory and terminology analysis, while preserving the validity of the original format.

After translation our engineers ensure that the process continues smoothly, that the translation is converted back into the original file format, followed by a final integrity check. The work of the linguistic engineer saves time and ensures better quality by providing files for immediate use.

5 Achieving an efficient process

An efficient and well-defined process is the basis of reaching a win-win cooperation between UKHO and Xplanation Language Services. While several steps of the process, as you can read in the following chapters, are well-oiled and handled by us, the translation process can never be complete without good communication between UKHO and Xplanation Language Services.

5.1 Selecting the team

The Key Account Manager puts in place a team to cover all necessary parts of the translation process for UKHO. Each member of the team has a specific role and set of responsibilities. You can read more about the responsibilities of each team member in Chapter 4.

Ineffective use of the partner pool can lead to poor translations being delivered. This is why our Project Managers follow strict guidelines when selecting translation and revision partners for each project and they are supported by Tstream®.

The factors taken into consideration are:

- language combination;
- specialist field knowledge;
- experience with the text type (technical, legal etc.);
- any other appropriate factors that may be applicable, such as familiarity with a specific ongoing or previous project;
- quality score;
- availability to complete the work on time.

5.2 Planning and preparing projects

The Project Manager uses Tstream® (see Chapter 3 for detailed information) to analyse the project and gather all necessary information for the project plan and the translation kit.

The project plan, pinpointing the tasks and milestones, is drafted by the Project Manager and is accessible by the Key Account Manager and the

back-up Project Manager throughout the entire project. The structure of a project plan forms part of our specific UKHO procedures.

Tstream® automatically compiles most of the content of the translation kit for the translators and revisers. The kit contains the following elements:

- file(s) to be translated;
- Purchase Order containing the deadline, task type, Translation Memory (TM) analysis, contact information etc.;
- supporting web pages with relevant terminology and reference resources;
- translation memory package;
- checklists for the translator and reviser (see Annex 7.4.1 – Checklist for translators and revisers);

5.3 Translation

Our translators receive the translation kit via Tstream® Portal where he/she confirms receipt and deadline. For each translation project, the translator must:

- read the instructions and the checklist contained in the translation kit before starting the translation;
- follow and adhere to the instructions and the checklist contained in the translation kit during translation;
- inform the Project Manager immediately if any problems prevent him/her from meeting the agreed deadline;
- send unsolvable terminology issues not covered by the reference material to the terminologist as soon as possible and the Project Manager involved in the translation process:
  - Translators are advised to send terminology questions in good time before the day of delivery;
  - They also take into account the fact that some of the terminology issues may not be solved immediately by our terminologists, and may require them to consult external experts
- direct unsolvable issues regarding the meaning of the source text to the Project Manager;
- implement feedback from the Project Manager;
- performs a consistency check via Tstream® Consistency;

- verify that the translation has been performed in accordance with the checklist supplied (see Annex 7.4.1 — Checklist for translators and revisers) before delivery.

Upon completion of the translation project, the translator uploads the finished translation and checklist via Tstream® Portal, allowing it to proceed to the next step in the translation process, i.e. the revision step. The Project Manager receives a notification from Tstream® as soon as the translator uploads the documents.

5.4 Quality control: revision, quality assessment and terminology

5.4.1 Revision

All translation tasks are revised by a reviser, who will ensure the quality of the project. Comparable to the translation process, our revisers receive the translation kit via Tstream® Portal where he/she confirms receipt and deadline.

When performing the revision, the reviser checks for the following translation quality requirements, using the checklist supplied (see Annex 7.4.1 — Checklist for translators and revisers):

- accuracy of grammar, syntax, punctuation and spelling;
- adequate command and clarity of the target language and use of appropriate register;
- accuracy of quoted documents (directives, COMs, regulations etc.);
- terminology consistency;
- correct understanding of the source text;
- appropriate use of all the reference material supplied by the Project Manager;
- completeness (tables, graphs, statistics, etc.).

The reviser then confirms that errors have been corrected and then incorporated in the final text before uploading via Tstream® Portal and proceeds to the assessment stage.

5.4.2 Quality assessment

At the end of each revision, the reviser completes a Translation Quality Assessment (see Annex 7.4.2 — Translation Quality Assessment), in which he/she indicates whether or not the translation fulfils the project requirements. Both positive and negative feedback will be sent to the translator.

The reviser marks the number of coded errors of each type in the appropriate section of the Translation Quality Assessment and sends the report to the Project Manager with the text containing any revisions that may have been made.

The Quality Manager, Key Account Manager, Project Managers, together with the Supply-Chain Manager and revisers, discuss on a regular basis our assessment standards, quality rankings and the status of the translators that have been re-ranked, be it positively or negatively.

5.5 Desktop Publishing and layout

Desktop Publishing, or DTP, applications are used to create documentation (brochures, leaflets, technical data sheets, manuals etc.) that are printed or published. Applications, such as QuarkXPress and Adobe InDesign, are specifically designed for this purpose.

Our DTP specialists, both in-house and external resources, work in many of these applications on PC and Mac platforms, and in all languages. They use general and client-specific checklists to make sure each target language is formatted as requested.

Once source and target materials are ready for publication, our DTP specialists export the document(s) as a Postscript or Adobe PDF file, which are used by the commercial printing agencies.

5.6 Project delivery

The Project Manager delivers the finished project through Tstream portal. The Project Manager is responsible for performing a final quality control of the files before uploading them to the dedicated portal. The Project

Manager checks that the correct files are delivered, in the correct format, and in accordance with the instructions given, and that all project specific instructions have been followed.

5.7 Unforeseen issues and force majeure

In case unforeseen issues should arise, such as significant delays on part of the translator(s), quality issues or technical problems, the responsible Project Manager will immediately call a project meeting with the Key Account Manager and the back-up Project Manager to find a solution to the problem. In the course of such meeting renewed project plans will be drawn up including prioritised list of steps to take to get the project back on track.

For technical issues Xplanation Language Services' technical staff will be involved. For linguistic and quality issues the language specialist for the concerned language will be involved ensuring that the problems are resolved in a satisfactory and professional manner.

5.8 Performance measurement, reporting and invoicing

Xplanation Language Services presents UKHO with different possibilities to gather all necessary intelligence for budget control, Key Performance Indicators, project follow-up etc.

5.8.1 Performance measurement

The Project Manager delivers the translation project, along with a link to a webpage where UKHO is invited to provide feedback.

Using this system allows Xplanation Language Services to accurately monitor UKHO feedback and take any steps required.

5.8.2 Reporting

Reporting is more and more becoming a vital element of a good and efficient cooperation. Xplanation Language Services provides UKHO with a

wide range of (customisable) reporting possibilities. Below you will find a non-exhaustive list of reports.

Project repor ng

- Ongoing and completed projects
- On-time delivery
- Projects pending feedback
- General data, such as number of projects and words, top language combinations and domains, etc.

Financial repor ng

- Historical Translation Memory performance
- YTD spend per user
- YTD spend per service type
- YTD spend per source language
- YTD spend per target language
- YTD spend per language combination

Quality repor ng

On a regular basis, our Quality Manager collates all feedback and draws up quality reports which form the basis for quality evaluation meetings. These quality reports provide detailed information on the feedback given by UKHO on different Key Performance Indicators, such as deadline, quality, layout and customer service.

5.8.3 Invoicing

Invoices, containing a detailed overview of all project costs and TM matches, are sent by regular post, but also electronically if required or requested.

6 IT infrastructure

6.1.1 Housing

Xplanation Language Services' Tstream® servers are located in a data centre. The data centre is specifically designed and equipped to the highest industry standards – raised floors, automatic fire extinguishing equipment, AC and DC power distribution, uninterruptible power supplies (UPS), back-up generators and multiple redundant fibre connections to all major carriers. All equipment in the data centre is monitored around the clock. All events are supervised and procedures are in place to respond to any incident 24 hours a day, 7 days a week, all year round.

The data centre is equipped with a state-of-the-art security system to prevent unauthorised access to our equipment. With proximity cards, typically combined with biometric readers and man traps, access is limited to authorised personnel.

This ensures maximum security for all our data, both in a physical sense – against theft, sabotage or accidents – but also against hardware failures through redundancy and off-site back-ups.

6.1.2 Hardware & software

In both the data centre for our Tstream® servers, as well as in our offices, we use up-to-date hardware and software to ensure smooth processing of data and documents.

In the data centre we use Sun™ servers with SAN storage in a fully redundant set-up, based on RedHat Enterprise Linux and Oracle software.

At Xplanation Language Services' offices, servers to control e-mail, files, back-ups, firewalls, and so on, run on Linux (CentOs 4.5 or higher). PCs and laptops used by our staff are constantly maintained to have up-to-date specifications and operating systems.

6.1.3 System safety and back-up

As Xplanation Language Services' servers are located in a data centre, we benefit from maximum availability of our translation technology and ensure maximum safety of all data, whether it is physically against theft, sabotage or accidents, or against hardware failures, using redundancy and off-site back-ups.

Xplanation Language Services ensures that the software used in the execution of the contract is free from all viruses or other defects which could risk contaminating the participating institutions/bodies' computer systems. If Xplanation Language Services becomes aware of any such risk, the customer will be informed immediately.

Our translation technology runs on a clustered environment. This means that all server components are redundant. Redundancy means that each component in the hardware set-up of the system is, at a minimum, doubled. This ensures maximum availability of the translation technology. The same strategy is used for the data storage system. As the storage system runs on a RAID-5 set-up, there is no loss of data when a single hard disk fails. The storage system also contains a hot spare disk, which means that even if two hard disks break down, the system can still run without any loss of data.

All information (e.g. the databases, the source files, the files for/from translators) is backed up every night in the data centre by Xplanation Language Services' housing partner. This back-up is stored in another room of the data centre.

7 Annexes

7.1 EN 15038 certificate

Certificate
No. 5278-02

Inspecta

Inspecta Sertifiointi Oy has granted this certificate as proof that the quality system of

Xplanation Language Services

complies with the requirements of the standard

EN 15038

Certification covers

The whole process from translation request to client feedback after delivery of the work.

Xplanation Language Services - complete translation solutions.

The certificate is issued on 2011-05-15
(first issue 2009-05-29).
The certificate is valid until 2014-05-28.

The certificate is valid on condition that the quality system of the organisation complies in compliance with the aforementioned standard and the General Regulations ASC 200. The validity of the certificate can be checked on the Internet at www.inspecta.fi

ORGANISATION CERTIFIED BY
Inspecta
EN 15038

Inspecta Sertifiointi Oy
P.O. Box 113, Pietarinkatu 13 B
FI- 00101 Helsinki, Finland
Tel. +358 10 521 600
Fax. +358 10 521 6211

Group headquarters: Inspecta Group Oy, Helsinki, Finland

TRUST & QUALITY www.inspecta.com

7.2 Clearance certificate

economie

BEPERKTE VERSPREIDING
DIFFUSION RESTREINTE
RESTRICTED

VEILIGHEIDSMACHTIGING
HABILITATION DE SECURITE
SECURITY CLEARANCE

28-1-2011

Hierbij wordt bevestigd dat de firma:
Il est certifié par la présente que la firme:
Certification is hereby given that the company:

XPLANATION LANGUAGE SERVICES N.V.

Gevestigd op het volgende adres:
Implanté à l'adresse suivante:
Established at the following address:

Interleuvenlaan 86
3001 LEUVEN

Ondernemingsnummer:
Numéro d'entreprise:
Identification number :

0475.425.289

een veiligheidsmachtiging bekomen heeft, afgeleverd door de Belgische regering, overeenkomstig de wet van 11.12.1998 betreffende de classificatie en de veiligheidsmachtigingen, op het niveau:

GEHEIM – NATIONAAL/NAVO/EU

en geldig tot: **21/01/2016**

est titulaire d'une habilitation de sécurité, délivrée par le gouvernement belge conformément à la loi du 11.12.1998 relative à la classification et aux habilitations de sécurité, au niveau:

SECRET – NATIONAL/OTAN/UE

et valable jusque: **21/01/2016**

has been granted a security clearance by the Belgian government, in accordance with the law of 11.12.1998 relative to the classification and the security clearances, at the level:

SECRET – NATIONAL/NATO/EU

and valid until: **21/01/2016**

De hogervermelde firma beschikt NIET over de vereiste installaties om geclassificeerde informatie te bewaren.
La firme citée ci-dessus ne possède PAS les installations requises pour détenir des informations classifiées.
The aforementioned company does NOT own the required installations to keep classified information.

Voor de Nationale Veiligheidsoverheid
Pour l'Autorité Nationale de Sécurité
For the National Security Authority,

ir. L. BALLET
Adviseur-Generaal wnd.
Conseiller général ff.
Acting Counsellor General.

7.3 Supply-chain management

A major aspect of preparing to undertake the translation work assigned under a contract is the selection of the core team of translators and revisers. This responsibility falls to the supply-chain team.

Our supply-chain team keeps a close eye on the professional competences of our translators and revisers. Strict entry criteria, coupled with continuous monitoring of delivered quality, mean that the partner pool boasts on-going quality in the key fields of translation, linguistics, research, culture and techniques.

Xplanation Language Services is certified according to the European Standard for Translation Services, EN 15038. Compliance with quality standards not only governs the service we provide to our clients, but everything that contributes to that service, starting with the composition of the quality-compliant partner team.

All Xplanation Language Services translators:

- are native speakers of the translation target language;
- have passed general and domain-specific quality tests;
- are legally bound by a partner service level agreement.

Translation expertise should be acquired through at least one of the following:

- formal higher education in translation;
- equivalent qualification in any other subject, plus a minimum of two years of documented experience in translating;
- at least five years of documented professional experience of translation.

7.3.1 Becoming an Xplanation Language Services partner

Xplanation Language Services uses a highly effective process to filter potential translators, so only the best make it into our partner pool.

Once initial contact has been made, either by the translator or by Xplanation Language Services, and the Supply-Chain Manager has confirmed the translator's potential as an Xplanation Language Services partner, a test piece is carried out. The translator also commits to signing an NDA (Non-disclosure and confidentiality agreement).

7.3.2 Testing procedures

The test translation is reviewed by one of our experts who submits a Quality Report covering areas such as the comprehension of source content, consistency of language usage and the correct use of terminology, as well as the use of a good style and accurate localisation to verify that the translation is a text that flows naturally in the target language.

At the same time the translation is checked for the translator's attention to detail by looking for the use of accurate spelling and grammar and by making sure that there are no omissions or typographical errors in the text.

If a translator passes the test translation, he/she is added to our pool of translators who are *in a tes ng phase*. During this phase translators will be tested thoroughly to determine their strengths and weaknesses.

7.3.3 Continuous professional development

Once an approved partner, they are introduced to Xplanation Language Services using a specially designed 'Starter's kit' including:

- Getting started with Tstream®;
- Quality Guidelines & Expectations;
- How to solve technical problems;
- How to approach terminology questions;
- How to ask project-related questions.

Xplanation Language Services expects a sufficient level of continuous professional development from all its partners.

Alongside the varying tasks and training that we provide, we also give continuous feedback to our partners, allowing them to develop any areas that may be necessary, and to hone those areas in which they are particularly skilled.

Xplanation Language Services also holds webinars for translators and revisers on a regular basis. These webinars are attended by new partners for 'basic' training in our tools, procedures and processes, and by experienced partners for 'advanced' features and processes.

We also encourage our partners to maintain contact with the source language cultures and colleagues they work with, in order to stay informed of any relevant linguistic changes.

7.4 Checklists

7.4.1 Example - Checklist Translators/Revisers

PLEASE MAKE SURE YOU SEND THIS CHECKLIST VIA EMAIL TO THE PROJECT MANAGER EVERY TIME YOU DELIVER A TRANSLATION JOB!

PLEASE MAKE SURE YOU TICK EACH OF THE FOLLOWING APPLICABLE CHECK BOXES.

Work Specification n°	[redacted]
Translator name	[redacted]

Translation Checklist		**Checked**	**NA**
The text is translated in accordance with the instructions provided by the PM.		☐	☐
Adherence to EU updated glossaries and references provided by the PM.		☐	☐
Terminology is consistent and accurate. Terminology searches are done:			
1. IATE – the Interinstitutional terminology database	http://iate.europa.eu/iatediff/SearchByQueryEdit.do	☐	☐
2. The European Parliament website	http://www.europarl.europa.eu/news/public/default_en.htm?language=EN	☐	☐
3. The European Commission website	http://ec.europa.eu/transparency/access_documents/index_en.htm	☐	☐
4. Other EU official terminology or legislative databases/ bulletins/glossaries Please mention them in the "Remarks" box!		☐	☐
For European Parliament jobs: The translator used the standard formulae, sentences and phrases, as well as the general rules on layout and presentation mentioned in the "Recueil de modèles" (RdM) of the European Parliament available at: http://www.europarl.europa.eu/rdm/index.cfm?code=1001		☐	☐

Titles and quotations of official documents (EU legal acts: treaties, directives, COMs etc.) are checked in:			
1. The Legislative Observatory of the European Parliament	http://www.europarl.europa.eu/oeil/search.jsp	■	■
2. EUR-Lex – European Legislation website	http://eur-lex.europa.eu/RECH_menu.do?ihm lang=en	■	■
3. Other EU official terminology or legislative databases/lists/ bulletins/ glossaries Please mention them in the "Remarks" box!		■	■
Names of institutions, bodies, interinstitutional services, agencies (decentralised organisations) and executive agencies are checked in Annex B of the Interinstitutional style guide http://publications.europa.eu/code/en/en-5000800.htm		■	■
Numbers, punctuation rules, measurement and currency units, abbreviations and acronyms are used in accordance with the Interinstitutional style guide: http://publications.europa.eu/code/en/en-000500.htm		■	■
Grammar and syntax correspond to the target language standards.		■	■
Spell check is performed and errors are corrected.		■	■
For European Parliament jobs : DocEP tags are not corrupted.		■	■
All terminology issues are solved before delivery. If not (because Xplanation has not been able to provide an answer in time), they have been reported to the PM.		■	■
There are no double spaces and no spaces before punctuation marks.		■	■

Remarks:
[redacted]

7.4.2 Translation Quality Assessment

Revision job no.:		
Language combination	Source language	Target language
Project receipt date		
DEADLINES	Date due	Date delivered
Translator's deadline		
Reviser's deadline		
Deadline to client		

First Reviser: Translation Quality Assessment							
		Relevance				Relevance	
Error type	Code	Low	High*	Error type	Code	Low	High*
Mistranslation	SENS			Clarity and/or register	CL		
Omission	OM			Grammar/Syntax	GR		
Wrong or inconsistent EU usage or terminology	TERM			Punctuation	PT		
Reference documents/ material not used	RD			Spelling	SP		

A "high relevance" error is one which seriously compromises the translation's usability

Translation technical requirements		
Correct layout check	Text is complete (tables, graphics, etc.)	Tags are not corrupted
	YES/NO	YES/NO
Correct formatting check	PM instructions	Specific instructions
	YES/NO	YES/NO
Compliance with any specific instructions given by the client	YES/NO	YES/NO

OVERALL EVALUATION:

Excellent ☐
Acceptable ☐
Unacceptable ☐

Examples to jus fy Transla on Quality Assessment	
Error code	**Examples**

Quality Manager's Decision

Quality Management Team	
Quality Report received on:	Quality Assessment decision taken:

EXCELLENT TRANSLATION — QUALITY MANAGER'S RECOMMENDATIONS

The Quality Management Team recommend that the following action be taken:

Grounds for recommendation:

Quality Manager
Signature
Date

UNACCEPTABLY POOR TRANSLATION QUALITY — QUALITY MANAGER'S RECOMMENDATIONS

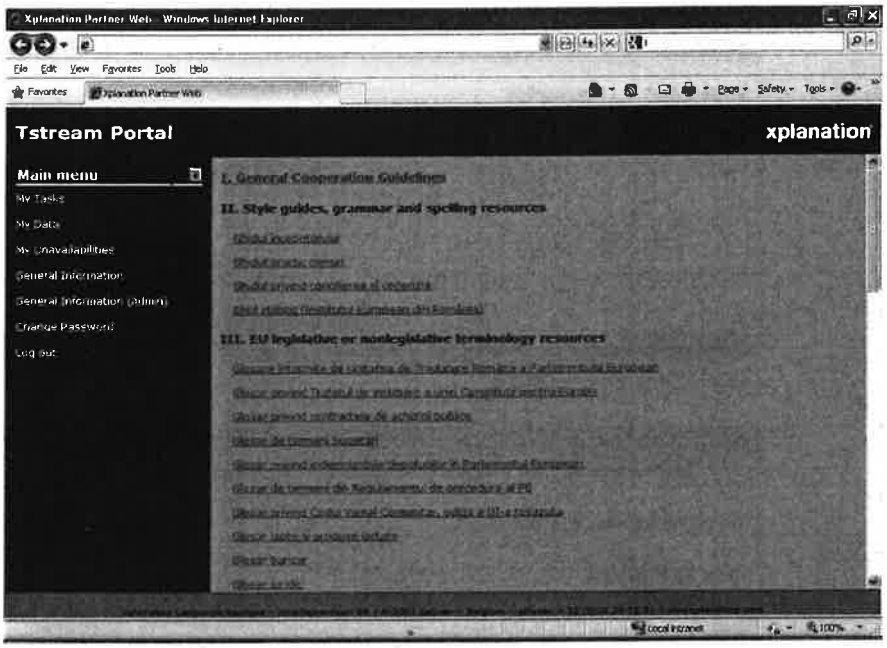
The Quality Management Team recommend that the following action be taken:

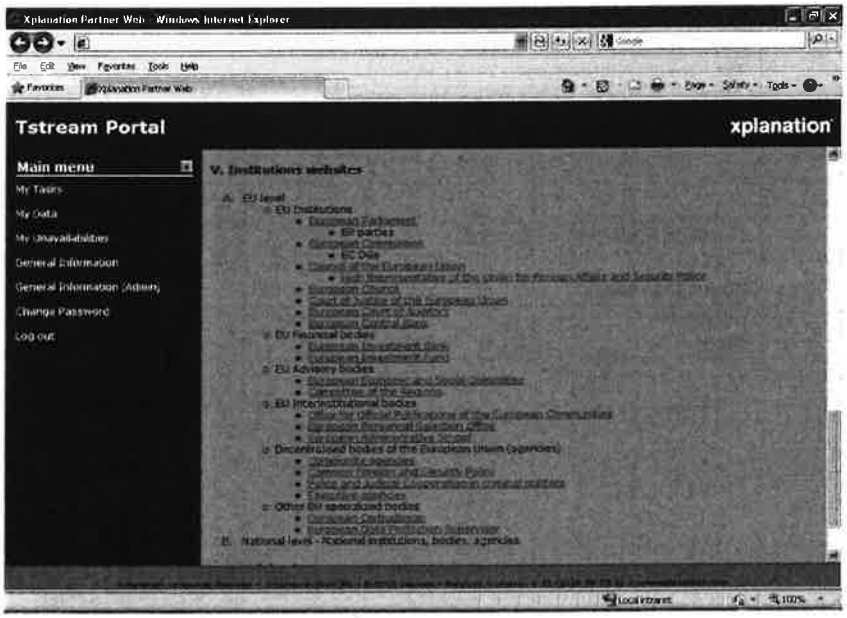
None	Warning + Re-ranking in our EU translator/reviser scale	Financial penalties	Cancellation of our collaboration contract

Grounds for recommendation:

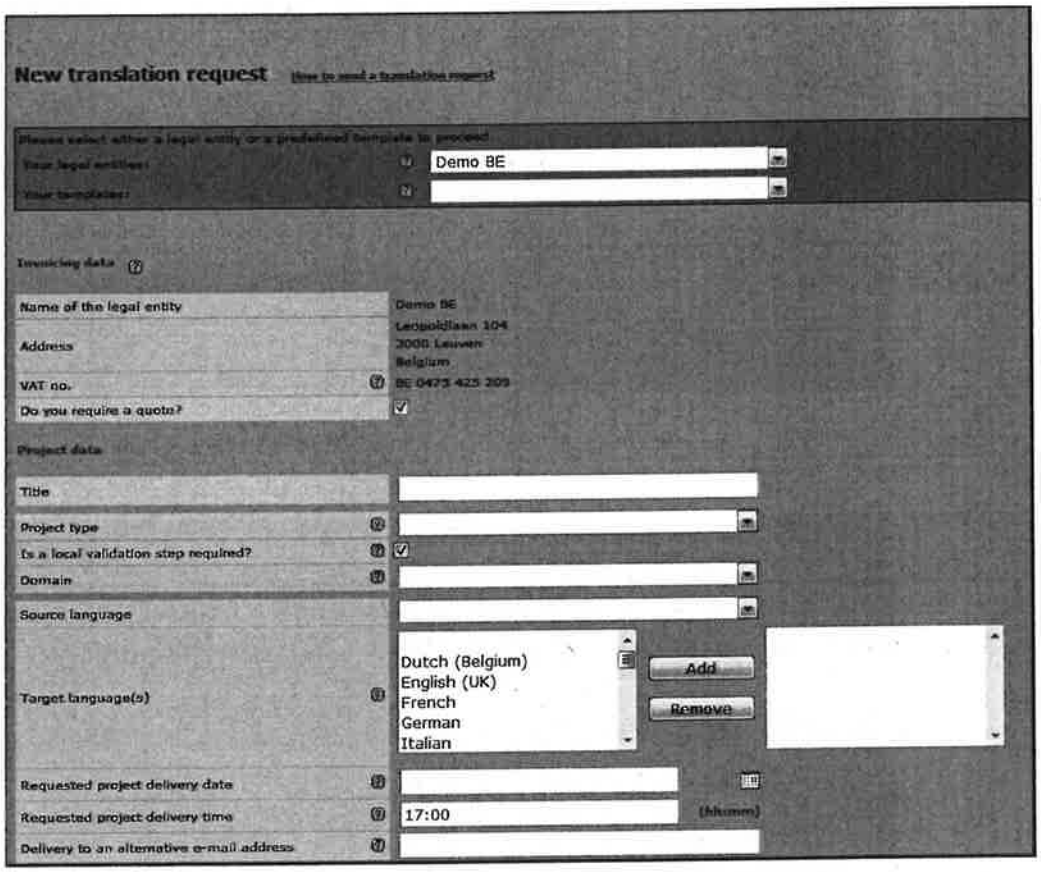
Quality Manager
Signature
Date

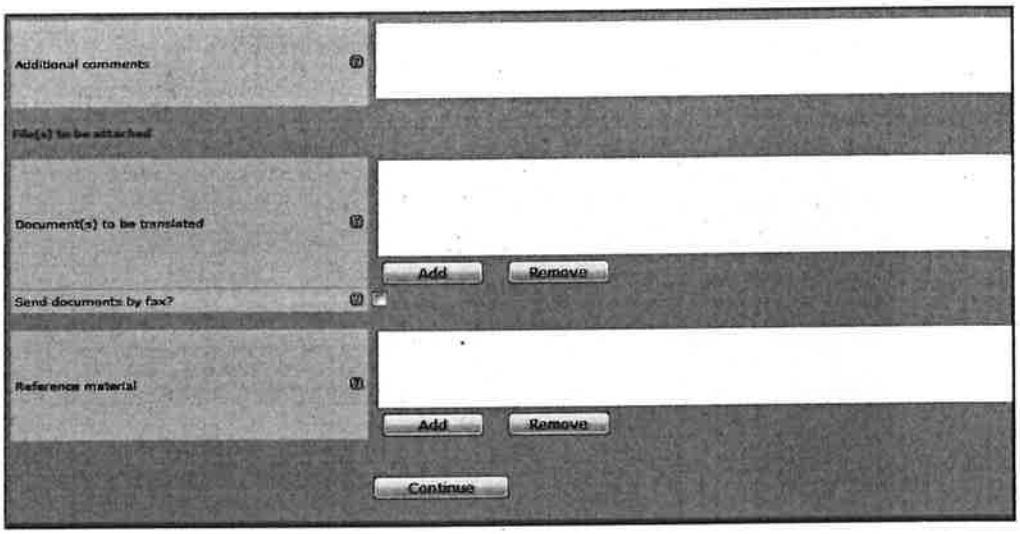
7.5 Website for terminology and reference resources

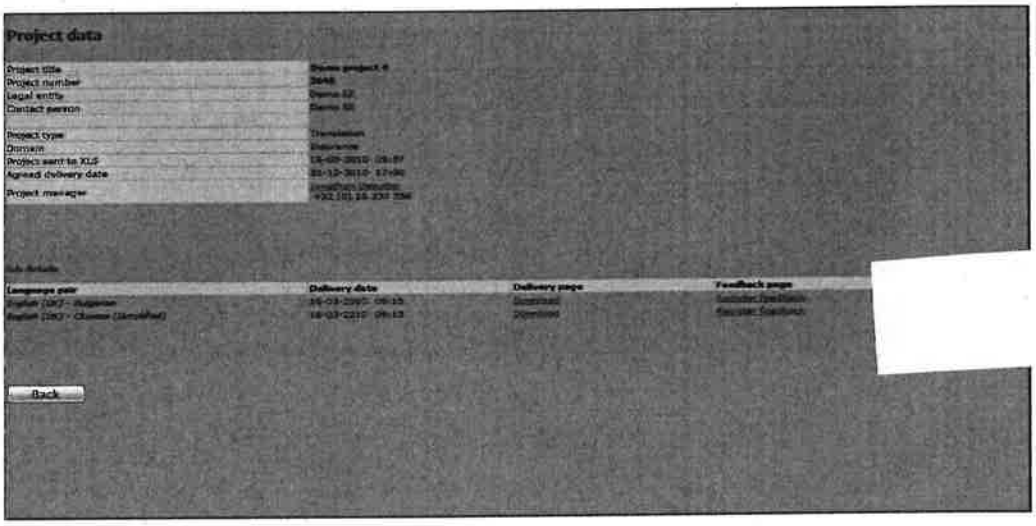


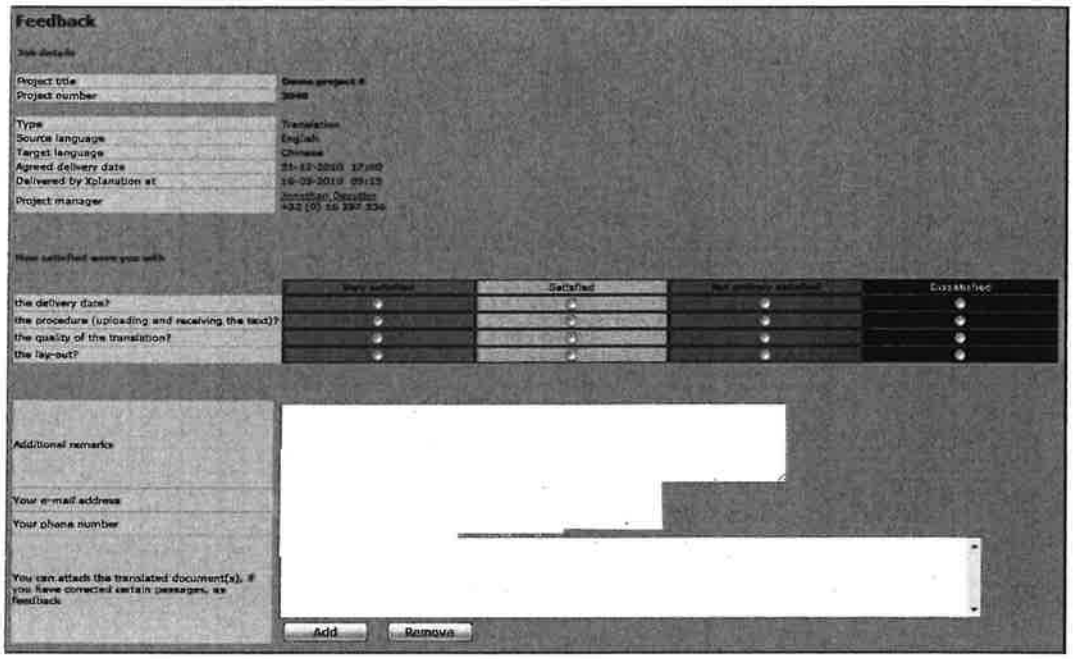


7.6 Tstream® Portal – screenshots




Additional comments
File(s) to be attached
Document(s) to be translated
Add
Remove
Send documents by fax?
Reference material
Add
Remove
Continue


Project data
Project title
Project number
Legal entity
Contact person
Project type
Domain
Project sent to XLS
Agreed delivery date
Project manager
Delivery date
Delivery page
Feedback page
Back


Feedback
Project title
Project number
Type
Source language
Target language
Agreed delivery date
Delivered by Xplanation at
Project manager
Satisfied
the delivery date?
the procedure (uploading and receiving the text)?
the quality of the translation?
the lay-out?
Additional remarks
Your e-mail address
Your phone number
You can attach the translated document(s). If you have corrected certain passages, as feedback
Add
Remove

Provision of Translation Services Questionnaire

Please complete all questions and, where requested, provide additional documentation. Please ensure additional documentation file names and titles refer to the tender question number
The Format of this Spreadsheet must not be altered. Individual cells may be increased in size to accommodate your answer but please do not add or delete columns or rows.

Question Number	Organisation Identity	Tenderer Response	Evaluation Criteria
1	Name of the company in whose name the PQQ was submitted.	Lifeline Language Services Ltd	Information

Question Number	Specification Questions	Tenderer Response	Score	Weighting	Weighted Score	Evaluation Criteria	SOR or ITT Reference
2	Please confirm which additional languages does your company translate into English from, and out of English into, and which are not in the Authority's Statement of Requirements at Annex A	Main additional languages are: Somali; Maltese; Afrikaans; Swahili; Bengali; Hindi; Gujarati; Punjabi; Urdu; Farsi; Dari; Catalan; Galician. Many others are available.		N/A		Information	
3	Please provide details which demonstrate that your proposals meet the Authority's requirements. Please also state what other additional benefits and potential savings, in terms of products or services, your company is including within its ITT response and is offering to the Authority, and which are relevant to the requirement. Please state the advantages of these additional benefits and savings and what, if anything, the Authority has to provide in order to obtain these further benefits	Please see provided document "**Response_to_Q3_Lifeline_Language_Services.pdf**"		5		Specification Compliance	1.1, 1.3, 1.4, 1.4.1, 1.4.2.1 to 1.4.2.12, 3.9
4	How quickly, in terms of hours or days, can your company source a translator for a new language not already covered in the Authority's Statement of Requirements at Annex A? How quickly can you provide firm pricing (per 1,000 words) for the new language and confirm all delivery lead times can be met? Are there any issues or factors which may delay responses?	Our partnerships globally make it unlikely that we would not be able to source translation and review capacity in a new national language, with pricing and turnaround agreed, within a day or so. The reason this could take so long is that we already have established resource in place for all the European languages (and many more); any that we needed to source from scratch would therefore tend to be less readily available and would be EITHER: 1. In areas where timezone differences would incur delays between our requests and answers coming back, OR: 2. In areas such as some African countries where although timezone issues are minimal, validating a reliable partner can be problematic.		N/A		Information	
5	Please confirm if you use "mother of tongue" translators within your organisation and if so, how many "mother of tongue" translators do you have and in which languages specifically. How many of your translators are based abroad and in which countries?	All our translators are mother-tongue in all main UKHO languages. There is a serious shortage globally however of mother-tongue translators into English in many Asian languages, in particular those of India (Bengali, Gujarati, Hindi, Punjabi, Urdu) and of some Middle-Eastern ones such as Kurdish, due to the global education system which does not generally offer these combinations to mother-tongue English students. For these therefore we would normally use experienced translators, mostly UK-educated, for whom English is the second language, with English revision carried out in-house. Please see provided report "**UKHO_TranslatorLocation.pdf**" for details of numbers and locations outside the UK. This is a full schedule; please let me know if you'd like this limiting to marine specialism only.		N/A		Information	
6	How many of your translators have navigational and/or maritime knowledge and experience and can understand maritime terminology and in which languages? Please confirm if your company has translated hydrographic and/or maritime related documents and data. If yes, please provide actual hard or soft copy examples in tender response. Please confirm if your company has undertaken any of maritime related documents or graphics. If so, please state and provide hard or soft copy examples of the work carried out.	**156** active translators on our database offer marine engineering or shipping as specialisms. Current immediately-available target languages are: Arabic, Brazilian Portuguese, Bulgarian, Burmese, Cambodian, Cantonese Chinese, Croatian, Danish, Dutch, English, Estonian, Finnish, French, Georgian, German, Greek, Hebrew, Indonesian, Italian, Japanese, Korean, Latvian, Lithuanian, Malay, Mandarin Chinese, Norwegian, Persian, Polish, Portuguese, Romanian, Russian, Serbian, Slovenian, Spanish, Swedish, Tagalog, Taiwanese, Thai, Turkish, Ukrainian, Vietnamese, and Welsh. Supporting data is available from our database on request. We have handled a variety of maritime texts and examples are included in supporting archive. **This data is provided in strict confidence and must not be divulged to any third party.** Please see provided zip file "**UKHO example maritime material.zip**" We also translate and edit graphics directly in a variety of **vector** and **raster** formats.		15		Specification Compliance	1.3, 1.4.1 & 1.4.2.9

7	Please confirm that your company will provide at least one dedicated translator for each piece of work issued. This applies to any work, unless the lead time is unusually short (less than 24 hours) or larger than normal in volume.	Any request in any language combination falling within the normal FGNM guide sizes of up to 1000 words will be handled by one translator, one first reviewer, and one second reviewer. This should be the case even where 24 hour turnaround is required for main languages ***(into English:*** *Spanish, Danish, French, Russian, Polish, Ukrainian, Italian;* ***from English:*** *Chinese, Arabic, Portuguese, French, Spanish)*. For less frequent languages one translator, one first reviewer and one second reviewer would still be the case, although slightly longer lead times would apply (typically 2 days for up to 1000 word FGNM).		N/A		Information	
8	How many quality assurance checks do your staff carry out on each piece of customer's work, to ensure 100% accuracy is met, and before being sent back to the UKHO. Please provide full details of the processes carried out at each stage/check and who by. Please specify which members of staff are involved, their post titles, and what checks they carry out specifically. State also how stages are audited in the event of issues with a customer's order or complaint i.e. the full audit trail of each order and how lessons are learnt and built in for future reference.	Please see provided document "**Response_to_Q8_Translation Quality process_v5.pdf**" which defines the quality process and auditable workflow, with roles, for a translation and includes an itemised checklist. *As part of our CI process this has been extensively updated from that provided with the PQQ, and supersedes that version.* With respect to issues resolution, please see also provided document "**Response_to_Q8_ConflictResolutionProcess_external.pdf**" which defines the process for handling complaints.		15		Quality Procedures	1.4., 1.4.1, 1.4.2.4 & 1.4.2.6
9	Please provide hard or soft copies of your standard request for quotation form and also your standard invoice which you would be submitting under this Contract. Please state what level of detail you provide and what information is inserted on each form e.g. quotation form - does it include discreet task reference, language from and into, target word count, price per 1,000 words, and any discount for using memory software? With the invoice, does this include similar details and ex VAT and inc VAT pricing, and clearly shows any discount for using memory software and how this has been calculated?	Quotation layouts vary with client requirements. For UKHO we believe email will offer the most flexible and quickest format, and would propose a layout similar to example provided as **email_quotation_sample.pdf** Proposed invoice layout (assuming our monthly invoice proposal is acceptable) is provided as **Response_to_Q9_Invoice_layout.pdf**; this is an actual invoice as produced from our database, containing example UKHO data set up for this submission. We would stress this is NOT a "dummy" or mock-up, but a live dynamically-generated document which we would be happy to demonstrate. Please note that since this is a bespoke layout, we would also be happy to modify to suit UKHO preferences for any additional (or reduced) information. It's probably worth mentioning that the same data could be readily used to generate reporting similar to that suggested in your provided "**Sample_reports.xls**"		N/A		Information	
10	With your FTP website, how often do you perform maintenance on the website and on what days? Are you likely to be changing your FTP portal within the contract period? If so please advise when this may happen where known? If not already stated, please confirm FTP website address, Account Manager and IT Manager (for the timed trials process), and provide their full contact details.	FTP site is managed by BTConnect who perform all required maintenance; the site has only ever been down for an hour or so during the very early hours on very occasional weekends. There is no intention of changing FTP provider. FTP details are provided in BidderConferenceAttendance.doc for Bidders' Conference, re-stated below. **FTP site:**		5		Technical Operational Support	1.4.1 & 1.4.2.4
11	Please confirm which languages your memory software can be used for? Are Tenderers aware in advance of any languages where memory software is unlikely to be employed by your translators?	Our translators support all language combinations requested by the tender in Trados with the exceptions of: **Into English** Indonesian Arabic Khmer/Cambodian Malay Welsh Hebrew Georgian **Out of English** Arabic Burmese Khmer/ Cambodian Welsh Hebrew Georgian		5		Specification Compliance	1.4.1, 1.4.2.3 & 1.4.2.7
12	Translation timed trial - **Please confirm that you have returned all trial samples by the trial stipulated timescales**	**Confirmed**		25		Timed Translation trial results	

13	Tender Price (MEAT price)	See Pricing Schedule table below. **NB**: these are based on selection from our database of over 3500 translators of those possessing particular expertise in these specific specialisms. This expertise is not common, and explains why for example Cantonese is considerably more than Mandarin since the available translator pool is much smaller.		30		Price	
		TOTAL	**0**	**100**	**0**		

Pricing Schedule	**The Contractor shall provide firm prices per 1000 words (each translation will be based on these prices on a pro rata system), per country, irrespective of delivery timescale for each order.**

Language	Firm Price per 1,000 words (into English) - target words - regardless of turn round time requested	Firm Price per 1,000 words (from English) - target words - regardless of turn round time requested
Chinese Cantonese		
Chinese Mandarin		
Korean		
French		
Russian		
Spanish		
Indonesian		
Norwegian		
Croatian		
Brazilian Portuguese		
Japanese		
Greek		
German		
Portuguese (European)		
Italian		
Romanian		
Dutch		
Taiwanese		
Serbian		
Arabic		
Polish		
Thai		
Burmese		
Lithuanian		
Vietnamese		
Serbian Latin		
Persian		
Cambodian		
Swedish		
Malay		
Estonian		
Georgian		
Welsh		
Turkish		
Danish		
Latvian		
Bulgarian		
Finnish		
Icelandic		
Ukrainian		

Slovene		
Hebrew		
Tagalog		

Translation Memory Software		
Match Types		% Discount - Tenderer to confirm what discount applies
Repetition	The same text is contained elsewhere in the document	
100% match	Text translated previously and contained partly in the translation memory	
90% - 99% match	Text translated previously and contained partly in the translation memory	
80% - 89% match	A similar text was translated using the memory tools previously and is available in the memory	
60% - 79% match	A similar text was translated using the memory tools previously and is available in the memory	
1% to 59% match	A similar text was translated using the memory tools previously and is available in the memory	

	Examples:	Pricing
A	100 word document (Spanish into English) with 75 words translated by memory software i.e. 60% to 79% match	
B	1,000 word document (Russian into English) with 850 words translated using memory software i.e. 80% to 89% match	
C	2,000 word document (Japanese into English) with 1,000 words translated using memory software i.e. 1% to 59% match	

Note: Tenderers shall clearly state by way of priced examples above how the % discount will be applied and how much discount in terms of value will be taken off total price

ANNEX A - Tenderer's Commercial Sensitive Information Form

ITT Ref No: Reference: HA294/005/167
Description of Contractor Sensitive Information: - Provided pricing, languages and Trados information - Sample documents - References to clients
Reference(s) of where can be found in ITT response: - Excel file "Questionnaire_&_Pricing_Schedule.xls" - Provided zip file of examples for Item 6 of Questionnaire "UKHO example maritime material.zip"
Explanation of Sensitivity: - The data reflects our commercial relationships with clients and sensitive pricing information which may be advantageous to competitors.
Details of potential harm resulting from disclosure: - Possible damage to our business
Period of Confidence (if applicable):
Contact Details for Transparency/Freedom of Information matters: Name: Position: Address: Lifeline Language Services Ltd, 3rd Floor Victoria House, 9-11 Ormskirk Road, PRESTON PR1 2QP Telephone Number: E-mail Address:

3.2.2 Weather

1. Operating/Logistics companies should provide latest weather forecast for intended destinations prior to sailing.
2. In all circumstances, the Master has ultimate discretion to decide whether to set sail.

3.2.3 Outward Cargo Planning

3.2.3.1 General

1. **Base operator must** provide
   - a copy of the vessel load list
   - a Dangerous Goods list for each installation to be visited.

   in sufficient time to allow proper stowage of cargo prior to departure.
2. **The Master is responsible** for the safe stowage of cargo.

3.2.3.2 Cargo Plan

1. A cargo plan should be produced jointly by the Master and Base operator from the load list.
2. Consideration must be given to backload space requirements. Vessels should arrive at installations with 10% of useable deck space, or one bay equivalent, free for backloading. This can be reduced if all involved (Master, installation being visited and other installations on planned route) agree cargo can still be worked safely.
3. Free deck space must be a single empty block suitable for deck cargo stowage, not made up of walkways or dead spaces.

3.2.4 Deck Cargo Handling & Securing

3.2.4.1 Discharging Deck Cargo

1. Crew or stevedores must not release cargo sea fastenings until vessel is alongside, or Master advises it is safe to do so. Check all lifts for loose items before commencing operations.
2. **Vessel's waste cargo carrying units should be checked** by vessel's crew prior to discharge to confirm:
   - they are correctly covered with appropriate netting or hard cover;
   - there are no loose items on top;
   - appropriate legislation with regards to waste segregation is complied with. UK5

3.2.4.2 Restraining of Cargo

1. **The Master must ensure cargo is secured in accordance with the vessel's cargo securing manual.** [15]

2. Masters should consider use of pipe stanchions when tubulars are loaded.

3.2.4.3 Cargo loading – Shippers' responsibilities

1. **Shipper must ensure** cargo complies with relevant guidelines. UK6
2. Containers or portable tanks used for the carriage of dangerous goods must be marked in accordance with the IMDG Code. UK3 UK7

3.2.4.4 Cargo loading – Base operators' responsibilities

1. **Base operators** shall verify weights of cargo during loading operations.
2. Procedures for packing & handling of cargo should follow relevant guidelines. UK6
3. All lifting & hoisting gear and chain gear **must comply** with applicable national rules and regulations[16] NL1
4. Where applicable loading or offloading with **forklifts** is the base company's responsibility, including condition of forklift and forklift operator qualifications.
5. Where loading ramp is used, person responsible for loading shall ensure ramp is correctly positioned and secured before permitting forklift to start loading. The work area shall be secured if practicable with chains or barriers.
6. Gangways shall be outside forklift operations area.

3.2.4.5 Cargo loading – vessel responsibilities

1. When loading cargo a Deck Officer or crew member should be available to oversee the condition and safe stowage of cargo units UK6. Master should refuse defective lifts and pay particular attention to door fastenings and security seals.
2. Loading plan **should eliminate** the need for walking or climbing on cargo when at the installation.
3. Areas on deck not to be used for cargo stowage should be clearly marked.
4. **The Master must refuse** to load cargoes not meeting required standards of stowage, securing, labelling, documentation and packaging.
5. Adequate safe access to the deck cargo working area for deck crew should be maintained.
6. Crew on deck should not attempt to position suspended lifts. Allow Crane Operator to place lift in position and take weight off the crane wire before approaching it.

7. **Entering gaps between cargo units can be extremely dangerous as unsecured cargo may move at any time.**
8. Multiple stacking of units as one unit is not permitted
9. Tubular cargoes should be stowed in safe bundles or singles as required by their weight.
10. Subject to above, generally stow:
    - heavier or larger lifts towards side rails where they can be secured
    - smaller lifts towards the centre where they are protected and less likely to snag in safe haven access points.

3.2.4.6 Cargo loading – joint responsibilities

1. Time should be allowed to complete cargo deck plans, check against manifest and query any discrepancies prior to departure.

3.2.5 Sailing Instructions & Cargo Documentation

3.2.5.1 Sailing Instructions

1. Sailing instructions are issued by relevant organisation (usually operating or logistics company). Sent to production platforms and drilling contractors as required by operating companies.
2. Sailing itinerary is issued to Master in writing before departure and copied to installations. This should include all voyage information including bulks allocated at each location, plus ETD and routing.
3. Sailing instructions will be issued in writing and signed for by the Master. Unless advised otherwise, vessels shall proceed at economical speed.
4. Requests to proceed at full or best speed are at Master's discretion.

3.2.5.2 Prior to Departure

1. A copy of Deck Cargo Plan should be lodged at the base operator's office.

3.2.5.3 Cargo Documentation

1. All cargo must be accompanied by cargo manifest providing:
    - clear identification
    - contents
    - destination
    - weight
    - MSDS
    - COSHH (where applicable)
    - IMDG declaration

3.3 *Approaching and at the installation (safety zone)*

3.3.1 Pre-Arrival Information & Planning

Safe operating practices can be found in annex C 'Bridge Procedures at Offshore Installations'.

3.3.1.1 Pre-arrival procedure

1. Vessels **to contact** installation as soon as is convenient or at least one hour prior to arrival to agree intended operations. Channels and frequencies are as per Installation Data Card.
2. If installations require particular discharge/backload arrangement, vessel should be advised in good time.

   However, cherry picking is not permitted!

3.3.2 Arrival at the Installation

1. Permission must be sought from the OIM by vessels wishing to enter the safety zone. Permission cannot be granted until both parties have completed checklist - see Annex D Checklist for Vessel & Installation Operations
2. Fishing is not allowed from vessels within the safety zone at any time.

3.3.3 Communication

3.3.3.1 General

See overview - Communication with vessels

3.3.3.2 Radio communication

1. **Maintain** listening watch on the nominated VHF/UHF Channel and/or mobile cellphone. *If vessel-installation radio link suffers failure or major interference vessel should stand off until restored.*
2. During approach, Installations should keep communications with vessels to a minimum.
3. Before positioning vessel to work cargo, ensure good radio communication between vessel and required installation stations. OIMs and Masters should also have telephone numbers for vessel-installation calls if required.
4. **Adequate communications should be established between the installation, vessel deck crew and the bridge to stop operations in the event of a dangerous situation**. Personnel may use a headset. If so, any headsets worn on deck must be set at a volume which allows

other sounds (waves, sea, cargo movements, warnings, etc.) to be heard.

5. The crew shall be able to communicate in the language of either the Continental shelf nation or English. Vessel's crew interacting with base or installation must be able to communicate effectively.

6. **Vessel MF or HF transmission is banned**. If this is necessary, OIMs permission is needed. If refused and the requirement is urgent enough, the Master must ask permission to leave the zone to transmit.

7. All VHF Radio's should be used on low power.

8. Switch off unscreened mobile telephones.

3.3.3.3 Radio Silence

1. All vessels must have specific procedures for radio silence in place. Masters must ensure these, and any additional requirements operating companies may impose, are followed.

2. Immediately prior to imposition, OIM will instruct all vessels to withdraw to and remain outside 1000 meters from the installation, or as advised, and to maintain listening watch on both VHF channel 16 and other channels designated for working.

3. Any vessel that for any reason does not have exemption and cannot withdraw adequately from the installation must stop all radio, radar, position reference systems and beacon transmissions, shut down all non-essential rotating electrical equipment and stop any hot work. All portable radio handsets, bleepers and mobile phones must be recalled before start of silence and kept non-operational throughout.

4. Prior to the start of radio silence, the vessel's Master must confirm to OIM that all radio silence procedures are being correctly observed.

3.3.4 Vessel Approach and Manoeuvring

3.3.4.1 Approaching the installation

1. Manoeuvre to a safe position, adjacent to the work location, outside the radius of installation's cranes and at least 50 metres off the installation, such that the vessel would drift clear in the event of engine failure. Set-up vessel on proposed heading, and assess environmental conditions and vessel's motion and behaviour over 10-15 minute period.

2. **When the Master is satisfied** vessel can safely be held in required mode and heading, ease towards the operating position. Speed on final approach should be less than 0.5 knots.

3. **Changing vessel's control mode (e.g. manual to joystick), and manoeuvring position (e.g. forward to aft) poses risks. After changeover, check all manoeuvring systems function properly**.

4. Surface current speed and direction may vary around an installation and differ from local current meter information. The Master must be familiar with local conditions.
5. Before coming alongside a **power assisted** installation or Vessel (e.g. FPSO, Crane Barge, Dive Support Vessel, MOU running thrusters) Masters should ascertain what propulsion units are running and if propulsion settings are liable to alter:
   - number of propellers or thrusters running
   - type of thruster control i.e. automatic (DP/mooring assist) or manual;
   - direction of thrust.
   - The installation or Vessel should advise the OSV bridge team if it intends to alter propulsion arrangements or settings whilst the OSV is alongside.

Installation movement presents a significant hazard when manoeuvring alongside. Prior to manoeuvring alongside an FPSO, the Master should review FPSO-Specific Checklist.

3.3.4.2 Manoeuvring alongside

1. **Note**
   - Deep water Installations with steep chain catenaries tend to move more laterally than those with shallow catenaries.
   - Installation thrusters may make movement unnatural or different to vessel.
   - Thruster wash may affect vessel's manoeuvring.
2. If required to move away **the Master must** establish position at a safe distance.
3. **Moving between work faces** must be properly planned, accounting for prevailing conditions. Maintain safe distance. For major position changes move well clear and approach a new work face cleanly.
4. **Make allowance** for visibility of under deck structure and position and volume of overboard discharges and vents when positioning.
5. **Vessel must** liaise with OIM immediately in event of:
   - equipment failure
   - problem with machinery or control room systems
   - contact being made with the installation structure
6. If required to leave the safety zone re-entry is not allowed until Master and OIM are satisfied action has been taken to prevent recurrence, and vessel is fully operational.

Frågetecken? – Kontakta SGU!
Förfrågningsunderlaget har framställts med avsikten att detta klart och entydigt ska beskriva de förutsättningar som råder och de krav vi ställer på uppdraget och den leverantör som ska utföra det. Det kan trots detta uppstå frågeställningar. Kontakta därför gärna undertecknad telefon. 018-17 91 91 om någonting i upphandlingen är oklart. Om behov av klargörande uppstår önskar vi dock få eventuella frågor i skriftlig form, på faxnummer 018-17 92 10 eller via e-post, [illegible].

I det fall mottagaren av detta förfrågningsunderlag avstår från att lämna anbud är vi tacksamma om detta meddelas undertecknad gärna också orsaken.

Med vänlig hälsning

[illegible]

SGU
Sveriges geologiska undersökning
Handläggare, tfn

ANBUDSINBJUDAN

Datum	*Avvikande utskriftsdatum*	Dnr
2009-11-24	*2009-11-24*	130-2148/2009

Anbudsbeteckning (anges på anbudskuvertet)

Upphandling- Transkribering av seismiska data

Anbudsgivare

«Företagsnamn»
«Kontaktperson»
«Utdelningsadress»
«Postnr_och_postadress»

Anbud kall va2a inkommet senast	Anbudet skall vara bindande t.o.m.
2010-01-07	2010-02-28

Upphandlingsform

Förenklad upphandling

Specifikation (beskrivning, beteckning)

Upphandling – Transkribering av seismiska data från gamla magnetrullband till modernt media.

Med denna anbudsinbjudan erbjuder Sveriges geologiska undersökning (SGU) intresserade leverantörer möjlighet att delta i den nu påbörjade upphandlingen av avläsning och bearbetning av seismiska data från äldre magnetrullband och tillhörande textdokument till modernt media

Sveriges geologiska undersökning har till uppgift att tillhandahålla geologisk information för samhällets behov genom att undersöka berg, jord och grundvatten. SGU är också förvaltningsmyndighet för mineralhantering samt avvecklar och miljösäkrar statens civila beredskapslager av olja. Vid SGU arbetar idag ca 290 personer varav ca 220 på huvudkontoret i Uppsala, övriga vid våra filialer i Stockholm, Lund, Göteborg och Malå. I SGUs organisation ingår även Bergsstaten som tidigare var en egen myndighet med kontor i Falun och Luleå.

Den information om berg, jord och grundvatten som insamlas genom SGUs undersöknings- och dokumentationsverksamhet på land och till havs lagras i olika databaser som sedan kan presenteras bl.a. i form av kartor.

Uppdraget omfattar att för SGUs räkning avläsa och bearbeta seismiska data från ett större antal äldre magnetrullband och det till dessa tillhörande textdokument samt överföra datan till modernt media.

Anbudsstruktur

Anbudet skall innehålla redovisningar över krav som ställs såväl på leverantör som på tjänsten. Redovisningen skall struktureras så att den överensstämmer med i förfrågningsunderlaget ställda krav. Anbudsgivaren uppmanas att begränsa svaren till att omfatta de efterfrågade uppgifterna.

Postadress	Besöksadress	Telefon	Telefax	e-post
Box 670 S-751 28 UPPSALA	Villavägen 18	018-17 90 00	018-17 92 10	

Allmänna anbudsförutsättningar

Anbud skall lämnas skriftligt i två kompletta exemplar - ett original och en kopia. Samtliga eventuella bilagor skall vara förtecknade i anbudet och märkta med SGUs diarienummer och anbudsgivarens namn.

Anbud skall vara på svenska, delar såsom teknisk specifikation tillåts vara på engelska och skall vara SGU tillhanda senast angiven dag. Försändelsen skall vara neutral utan företagsbeteckning men försedd med texten "Anbud Upphandling – Transkribering av seismisk data, 130-2148/2009 som bekräftelse på att detta innehåller anbud. SGU saknar möjlighet att pröva anbud som inkommer för sent.

Anbudsgivaren har möjlighet att sända ett förhandsexemplar av anbudet via telefax eller via e-post.
I det fall förhandsexemplar av anbud översändes via telefax eller epost skall detta sändas till SGUs registrator 018-17 92 10 eller sgu@sgu.se. Sådant anbud skall omedelbart bekräftas genom översändande av originalskrivelsen. Telefax-, e-postanbudet skall vara komplett och ska i sin helhet överensstämma med innehållet i det skriftliga anbudet. OBS! det skriftliga anbudet skall ha inkommet före senast inkommet datum. I annat fall kommer det att räknas som sent inkommet anbud och ej beaktas.

I övrigt gäller för denna upphandling bestämmelserna i Lagen om offentlig upphandling (SFS 2007:1091). Anbudsgivaren skall lämna sitt anbud med utgångspunkten att detta kan komma att antas utan föregående förhandling. Uppmärksamma att en eventuell förhandling enbart kan ske på initiativ av SGU.

Möjligheterna att komplettera uppgifter i anbud är begränsade. För att SGU skall ha möjlighet att pröva och utvärdera anbudet är det därför ytterst viktigt att detta innehåller samtliga begärda uppgifter.

Anbudsutvärdering

Prövningen av inkomna anbud sker i tre steg. Först prövas att anbuden uppfyller de krav som ställts på leverantören. De anbud som visat sig uppfylla kraven genomgår därefter en prövning av att samtliga ställda kraven på uppdraget – inklusive villkor – är uppfyllda. Bland de anbud som därefter kvarstår kommer SGU att anta det anbud som erbjuder lägst pris.

Meddelande om beslut

Anbudsgivarna kommer att erhålla skriftligt meddelande om resultatet av upphandlingen så snart SGU fattat upphandlingsbeslut. Antagen anbudsgivare skall vara beredd att underteckna avtalet i form av ett beställningserkännande tio dagar efter det att beslutet meddelats.

皮尔港

欢迎

尊敬的中国大使
傅莹女士

莅临利物浦港和曼彻斯特船舶运河

2007 年 8 月 28 日 星期二

Peel

皮尔港口 (Peel Ports) 集团

英国的第二大口岸群，地势优良，能够服务全英各地…… 五大关口每年可以处理超过 6,700 万吨国际贸易货物…… 苏格兰的克里得波特、海舍姆、利物浦、曼彻斯特船舶运河为英国的心脏地带提供服务，梅德韦港为英国东南部提供服务，此外，在都柏林、贝尔法斯特和加的夫还拥有大型的集装箱码头。

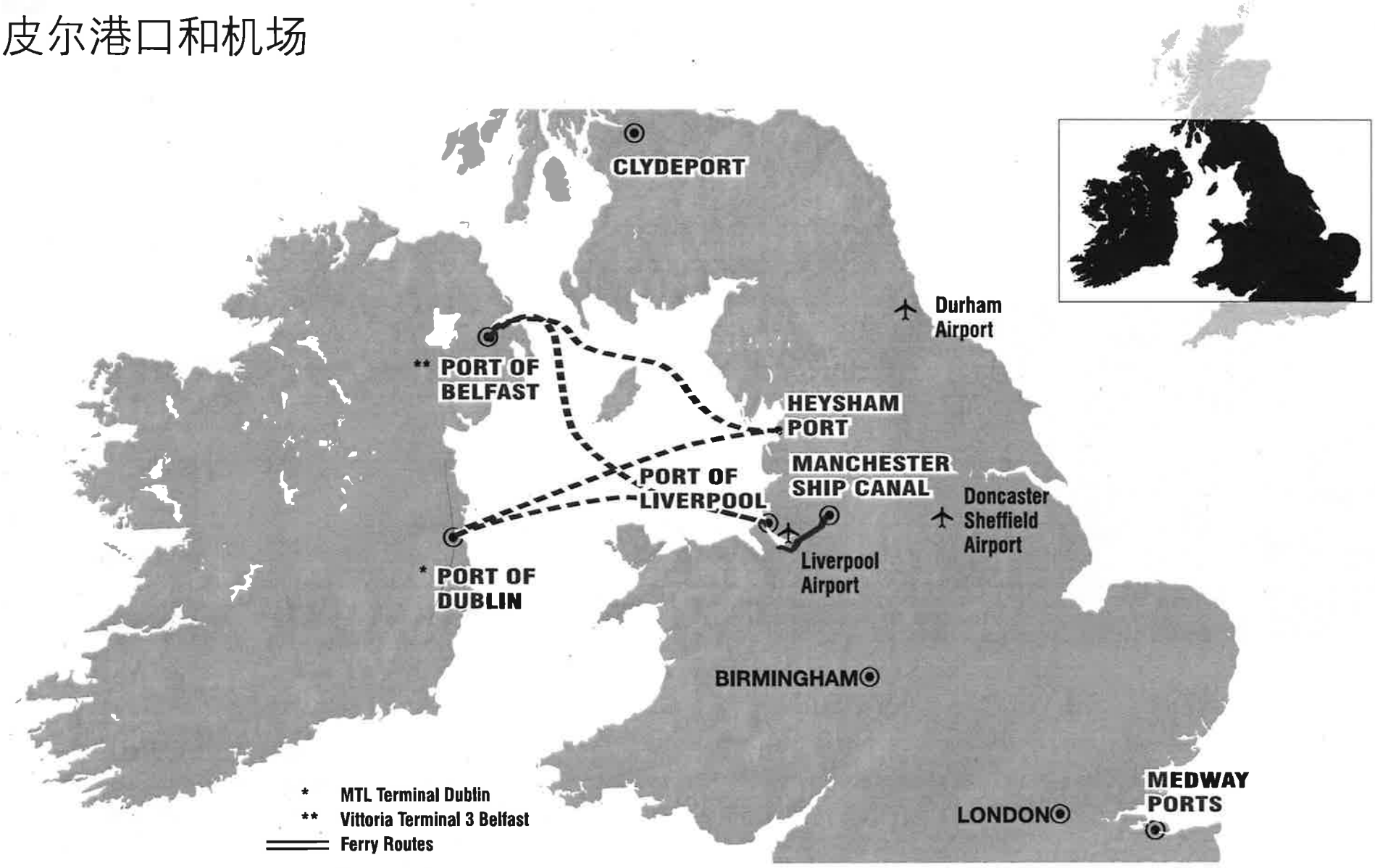
皮尔机场经营有利物浦约翰列侬机场、罗宾汉唐卡斯特谢菲尔德机场、达勒姆蒂斯山谷机场、谢菲尔德城市机场。

皮尔港口和机场都是大型商业企业皮尔控股公司（Peel Holdings）的一部分，该企业在英国是一家领先的地产和运输公司，资产总额超过 55 亿英磅。





皮尔港口和机场

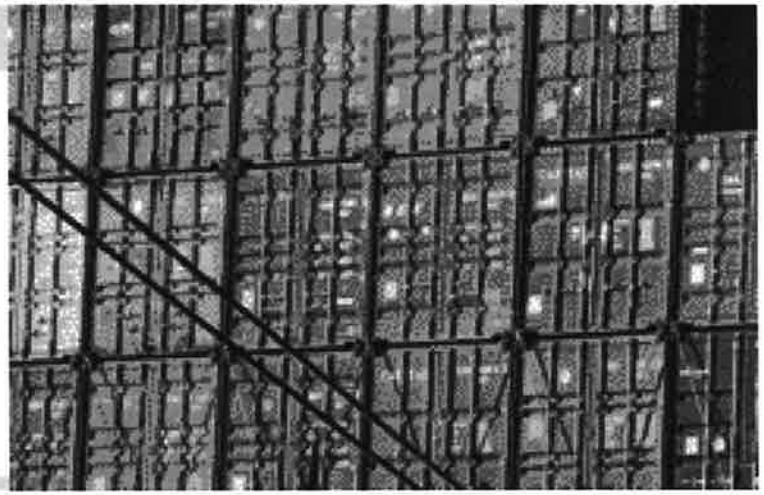

CLYDEPORT
Durham Airport
** PORT OF BELFAST
HEYSHAM PORT
MANCHESTER SHIP CANAL
PORT OF LIVERPOOL
Doncaster Sheffield Airport
Liverpool Airport
* PORT OF DUBLIN
BIRMINGHAM
MEDWAY PORTS
LONDON
* MTL Terminal Dublin
** Vittoria Terminal 3 Belfast
Ferry Routes

利物浦港和曼彻斯特船舶运河

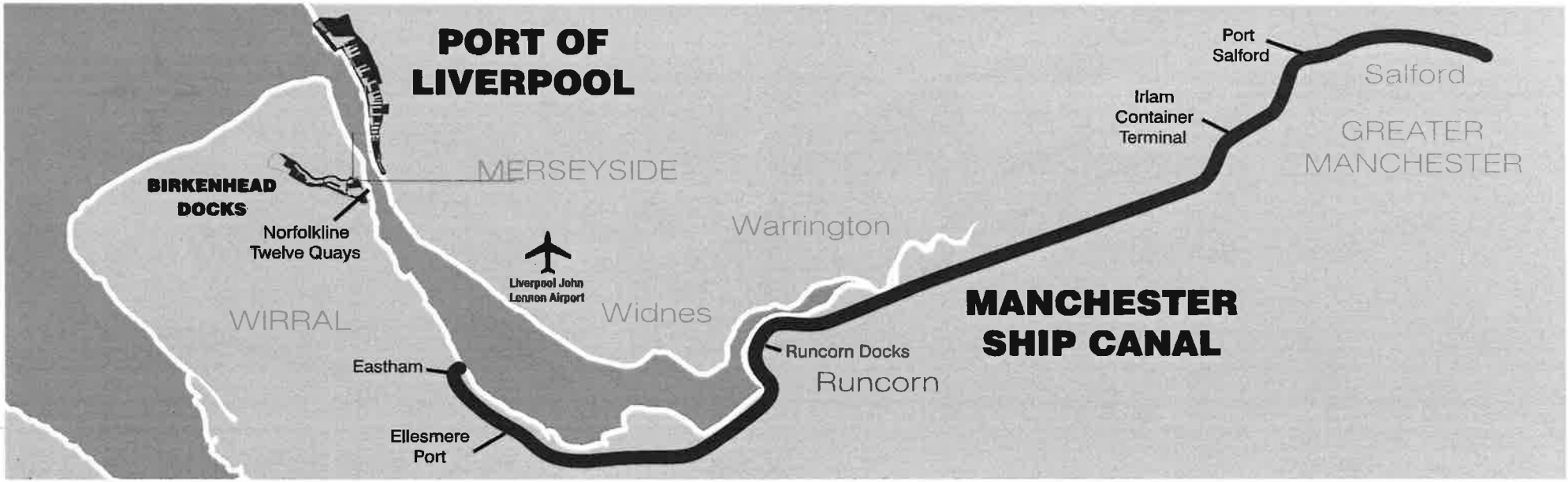
两大海上门户形成一个整体的动态水上高速公路，绵延 44 英里，从深水港利物浦起，经默西河和曼彻斯特船舶运河，到达伦敦以外英国最富饶的货物生产中心。它们与皮尔所拥有的利物浦约翰列侬机场一起为国际贸易和运输营造了一个独特的“超级港口”环境。

2006 年度货物总量

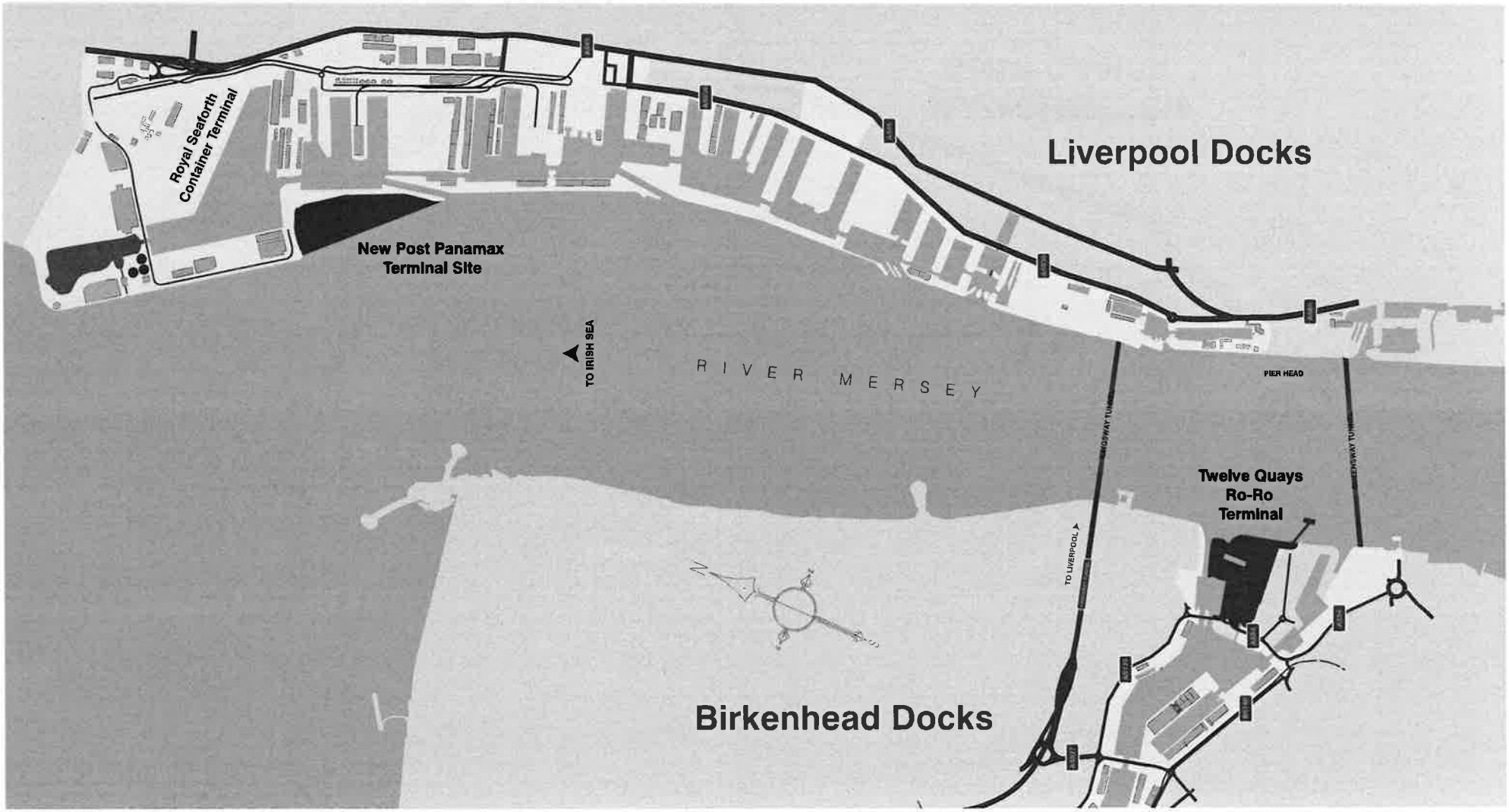
利物浦港：	总量：	33,500,000 吨
	集装箱：	630,000 TEU
曼彻斯特船运河道：	总量：	8,200,000 吨
利物浦港和 曼彻斯特船舶运河：	总量：	41,700,000 吨



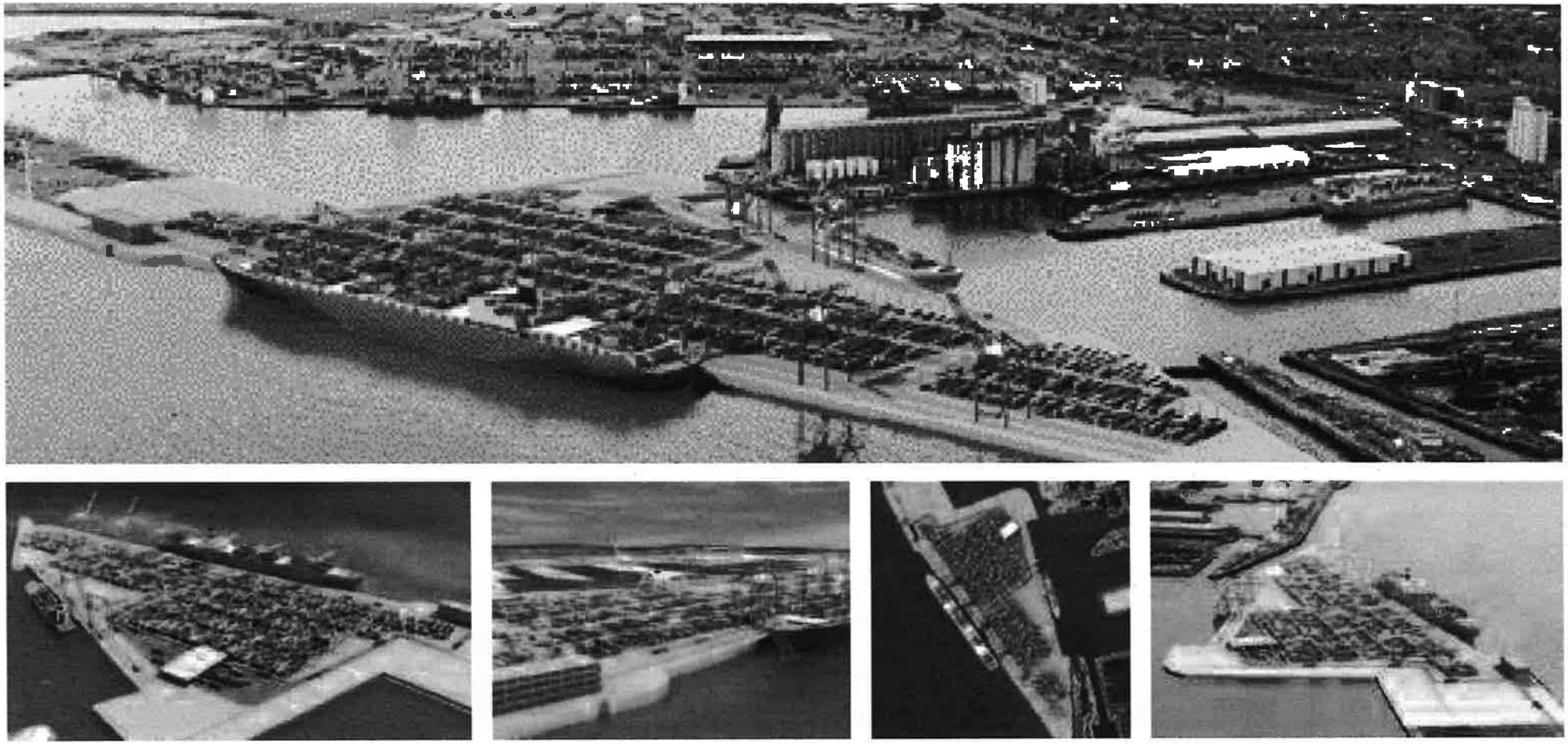
利物浦港和曼彻斯特船舶运河 – 国际贸易的战略通道



超巴拿马型集装箱码头和十二驳岸码头



2011 年超巴拿马型集装箱码头规划



皮尔 (Peel) 港计划花费 1 亿英镑在默西河 (River Mersey) 河口建造一个超巴拿马型集装箱码头，码头建成后几乎可以使利物浦港口的集装箱吞吐量增加一倍，达到每年 1,500,000 TEU。港口已建成的船坞码头目前每年的处理量为 630,000 TEU。

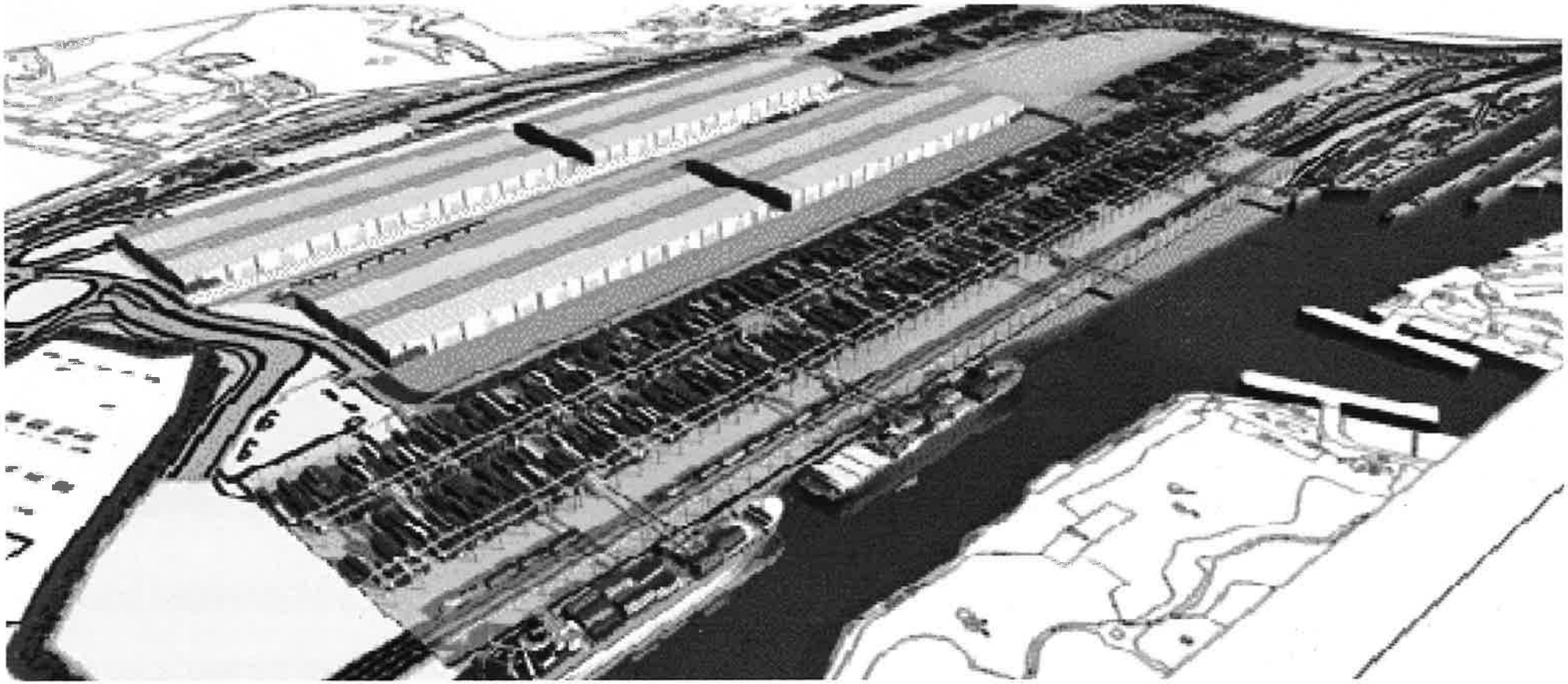
曼彻斯特船舶运河 — 直达英国西北的心脏地带

一项绿意盎然的服务措施，提供了国际集装箱贸易的直达水路航线，它把利物浦港和除伦敦以外的英国实力最强的集装箱货物集散地连接在一起。2007 年 9 月将启动一项以拖船和拖载能力为 2 × 160 TEU 的驳船为基础的航运服务，在皮尔港经营的利物浦港与曼彻斯特港之间提供每日全水路（连接位于默西河河口的深水港和内地货物集散地）往返运输服务。各大公司，包括 Tesco Ltd，已经参加了试运行，并取得成功。

曼彻斯特船舶运河 — 索尔福德 (Salford) 港

- 21 世纪铁路运输、驳船运输和公路运输的接驳枢纽

这一综合内陆国际码头位于曼彻斯特船舶运河沿岸，这一区域也是英格兰西北的工业心脏地带。索尔福德港将建造一个占地 70 公顷综合接驳站，包括一个每天可以处理 8 列集装箱列车的火车站，一个连接索尔福德港与利物浦港的一体化船运码头，还有一个 15 万平方米的与铁路相连的仓库以及 15 公顷的集装箱堆场。



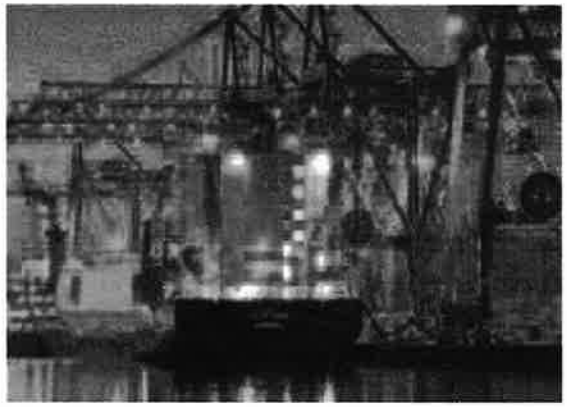
Peel

利物浦约翰列侬 (John Lennon) 机场

它是欧洲增长最快的地区性机场之一，每年客运量超过 450 万人次，可以飞抵约 60 个目的地，还有一个空运中心。

超级港口 — 利物浦

结合利物浦约翰列侬机场的灵活机动性和利物浦港的强劲实力，加上曼彻斯特船舶运河特有的基础设施的支持，皮尔港正在打造一个**“超级港口”**，以满足西北地区公司从事国际贸易的需要。无论是海上、空中、公路、铁路或运河，位于英格兰西北的皮尔港正在为未来的供应链解决方案建造一个立体运输网络!



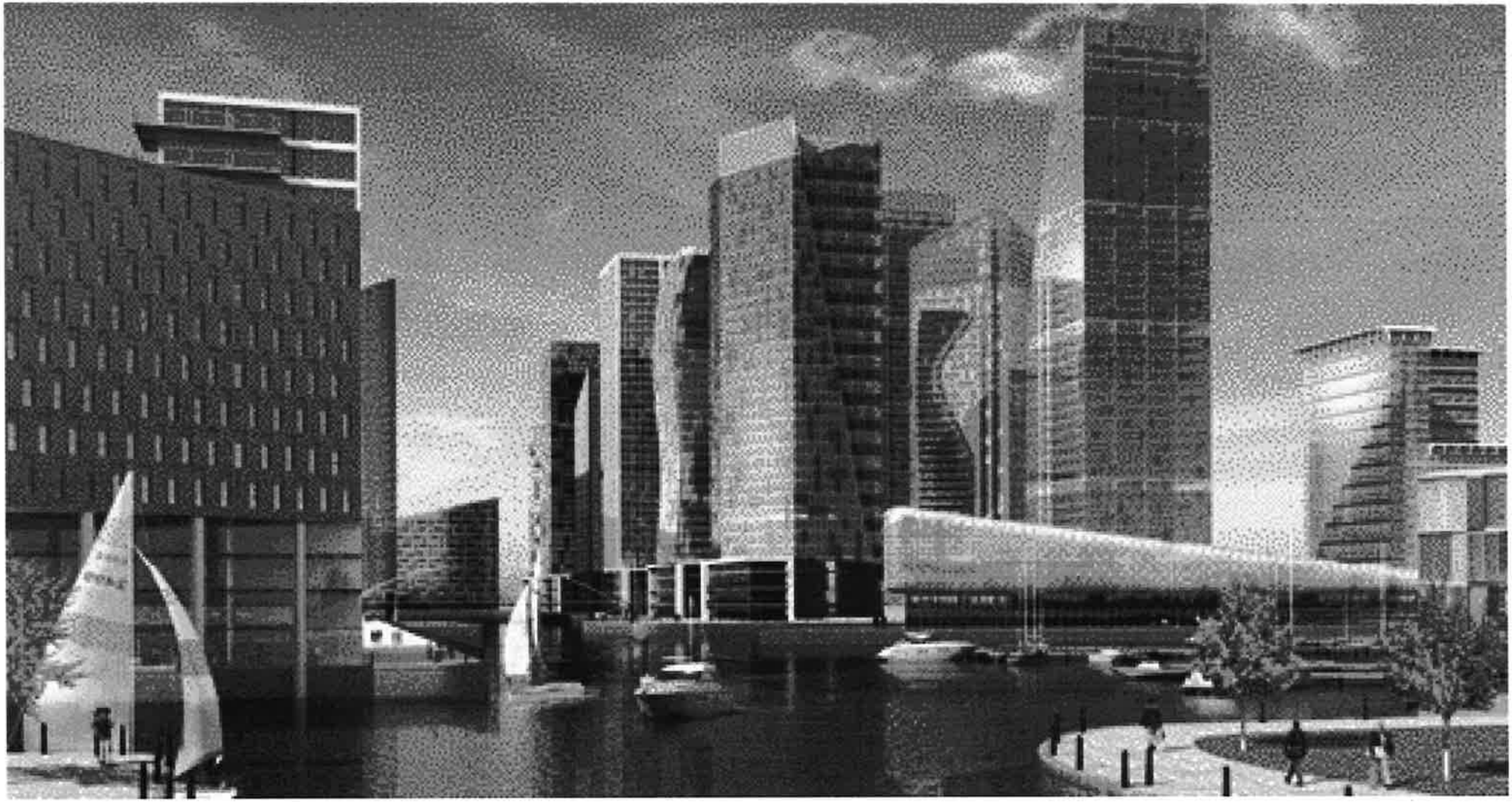



皮尔港耗资百亿英镑改造默西河沿岸 — 利物浦

上海大厦 (Shanghai Tower)，英国伦敦以外的最高建筑

皮尔财产 (Peel Property) 已经宣布计划改造默西河两岸的码头，把其建成一个壮观的通往英格兰北部的海洋门户。耗资 55 亿英镑的利物浦水域计划（上图）中的摩天大楼将包括上海大厦 — 英国除伦敦之外的最高建筑。它们将与耗资 45 亿英镑的威勒尔 (Wirral) 水域项目（上图）建造的高耸大厦群在默西河两岸交相辉映，与迪拜、纽约和上海的壮观的都市风景一较高下。

皮尔港耗资百亿改造默西河沿岸 — 威勒尔



环境政策

皮尔环保有限公司 (PEEL ENVIRONMENTAL LTD) 负责对集团的矿产、废弃物和再生能源进行管理和开发。这包括位于北曼彻斯特的由 26 个风力发电机组组成 65 兆瓦 Scout Moor 风力发电厂，规划中的位于利物浦港的由 5 个风力发电机组组成的 15 兆瓦风力发电厂，以及已建成的位于默西河河口的由 6 个风力发电机组组成的 3.6 兆瓦 Seaforth 风力发电厂。

皮尔环保有限公司和西北区域发展局 (Northwest Regional Development Agency) 现已受托进行一项利用默西河河口潮汐和波浪能量发电的研究。

Peel Ports

welcomes

The Chinese Ambassador Her Excellency Madam Ying Fu

to the Port of Liverpool and Manchester Ship Canal

Tuesday, 28th August 2007

Peel

Peel Ports Group

Britain's second largest group of Ports, strategically located to serve the whole of the United Kingdom... five major gateways handling a broad spectrum of international trade amounting to more than 67 million tonnes of cargo a year... Clydeport in Scotland, Heysham, Liverpool, the Manchester Ship Canal serving the heartlands of Britain and Medway Ports in the South East of England, plus major container terminals in Dublin, Belfast and Cardiff.

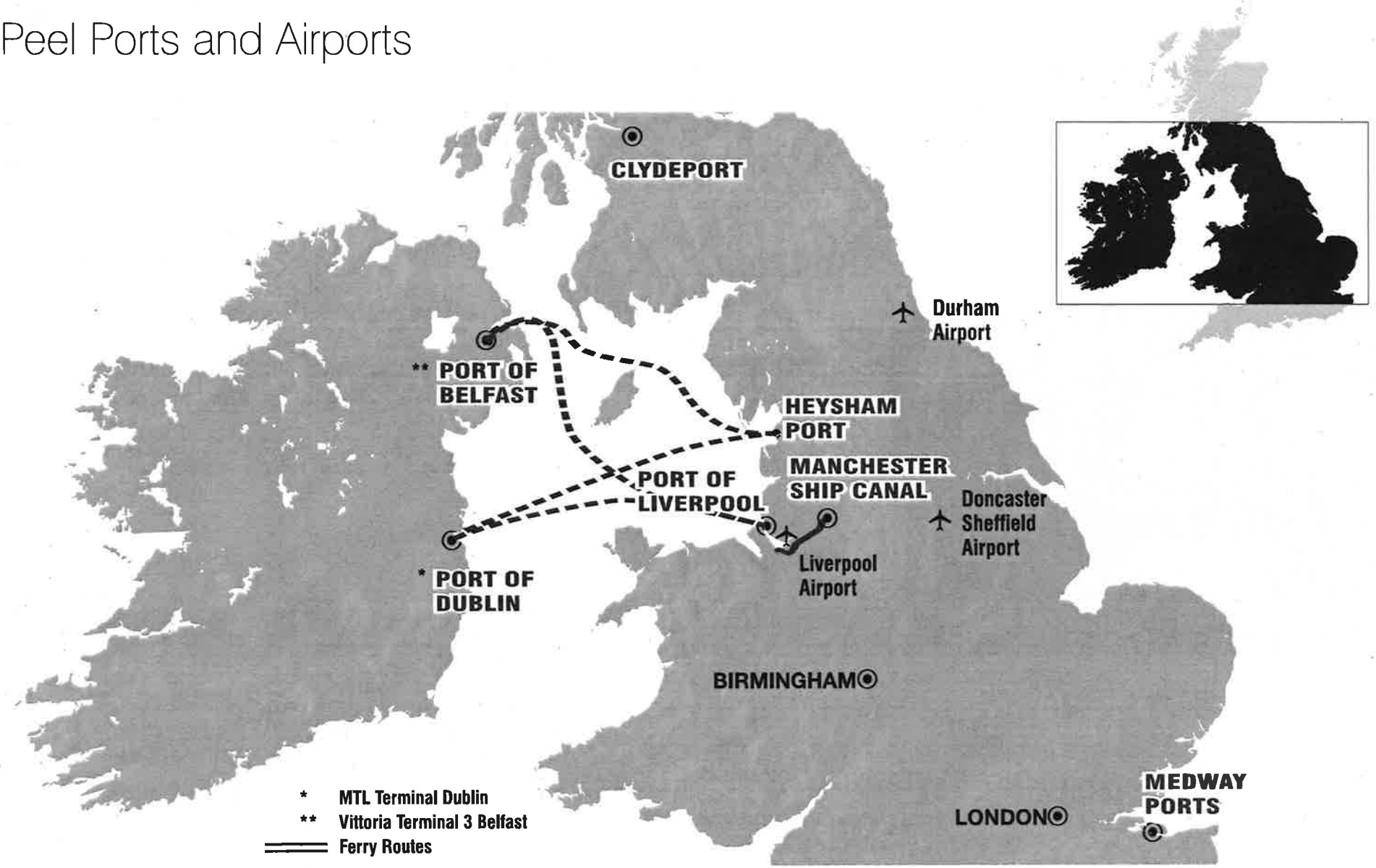
Peel Airports encompass Liverpool John Lennon Airport, Robin Hood Doncaster Sheffield Airport, Durham Tees Valley Airport and Sheffield City Airport.

Peel Ports and Airports are part of a larger commercial enterprise, Peel Holdings, one of the leading property and transport companies in Britain with assets valued at over £5.5 billion.





Peel Ports and Airports

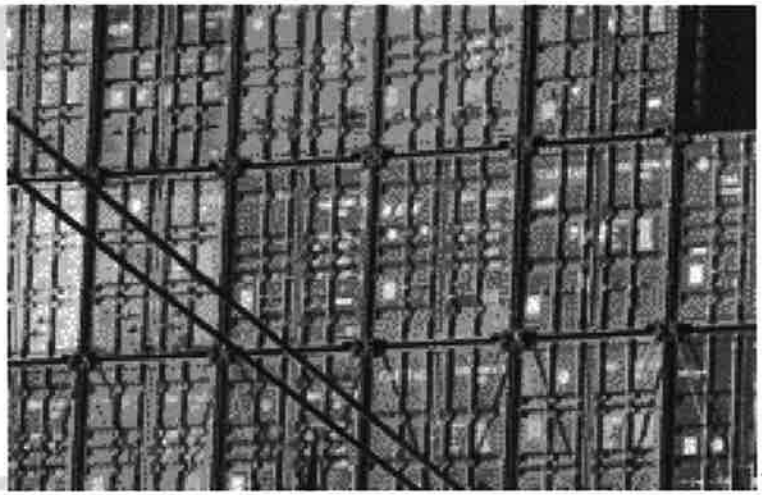


Port of Liverpool and The Manchester Ship Canal

Two major maritime gateways forming a single dynamic water highway stretching for 44 miles from the deepsea Port of Liverpool, up the River Mersey and the Manchester Ship Canal to the heart of Britain's richest cargo generating region outside London. With the Peel owned Liverpool John Lennon Airport, they form a unique "Superport" environment for international trade and transport.

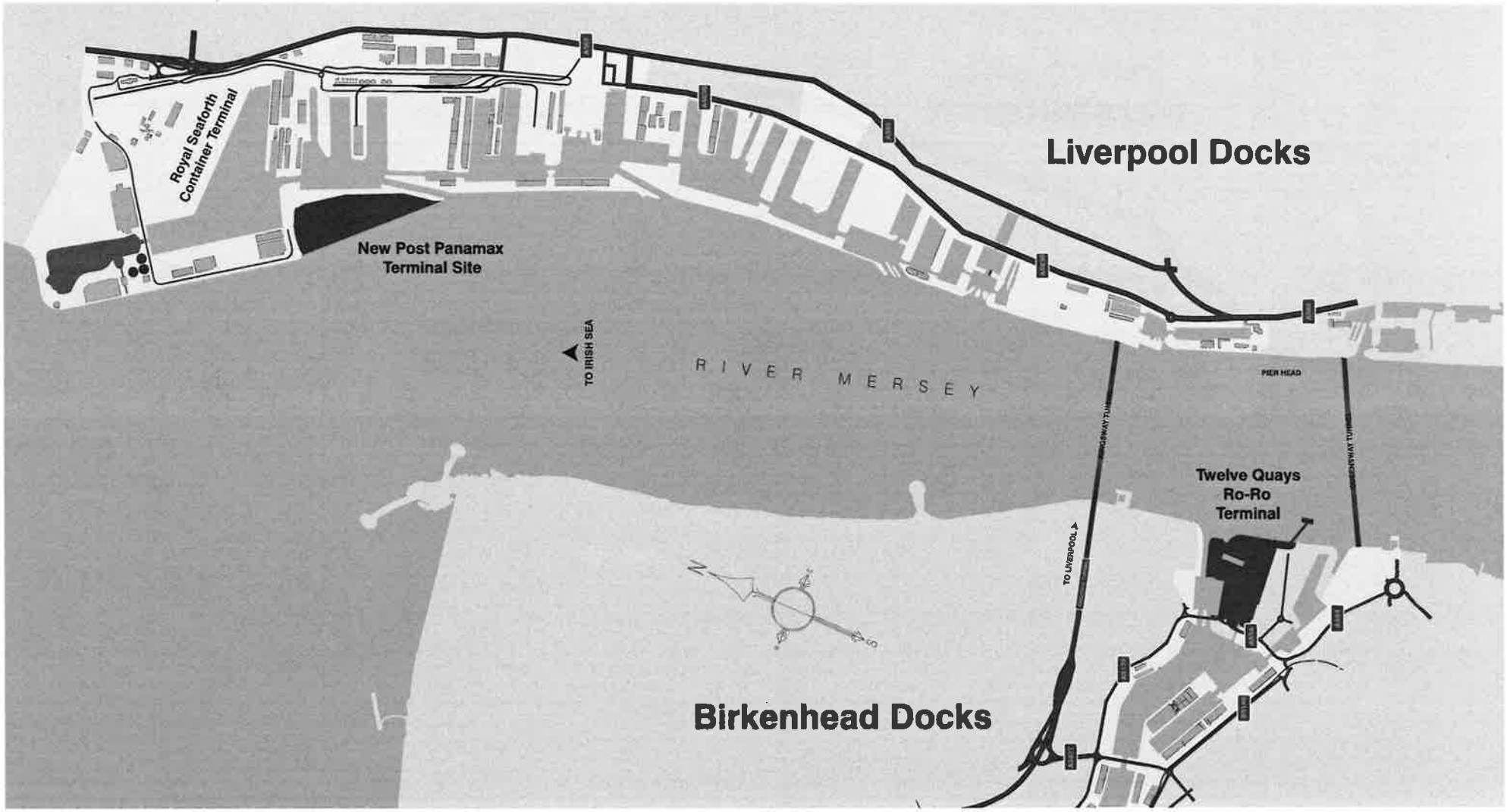
Cargo volumes 2006

Port of Liverpool:	Total:	33,500,000 tonnes
	Containers:	630,000 teus
Manchester Ship Canal:	Total:	8,200,000 tonnes
Port of Liverpool and Manchester Ship Canal:	Total:	41,700,000 tonnes



Port of Liverpool and The Manchester Ship Canal - strategic route for international trade

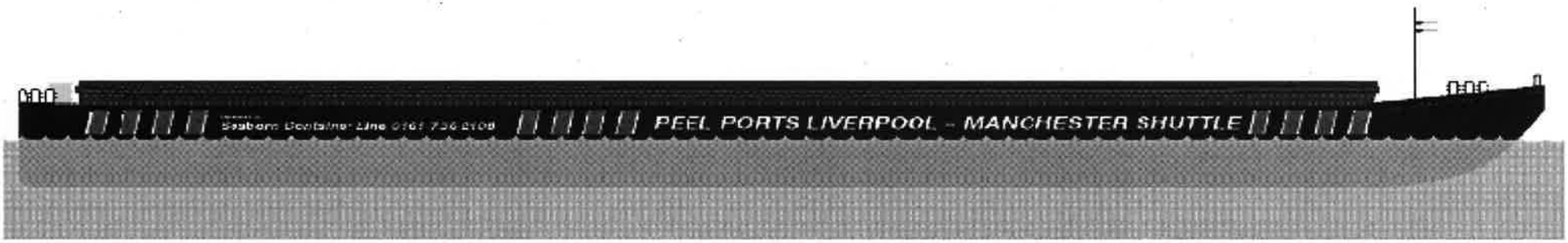
Post Panamax Terminal and Twelve Quays Terminal



Post-Panamax Container Terminal planned for 2011

Peel Ports is planning a £100 million Post-Panamax container terminal at the mouth of the River Mersey, which will almost double the container capacity of the Port of Liverpool to 1,500,000 teus per annum. The Port's established in-dock terminal is currently handling 630,000 teus per annum.

The Manchester Ship Canal - reaching the heart of the North West

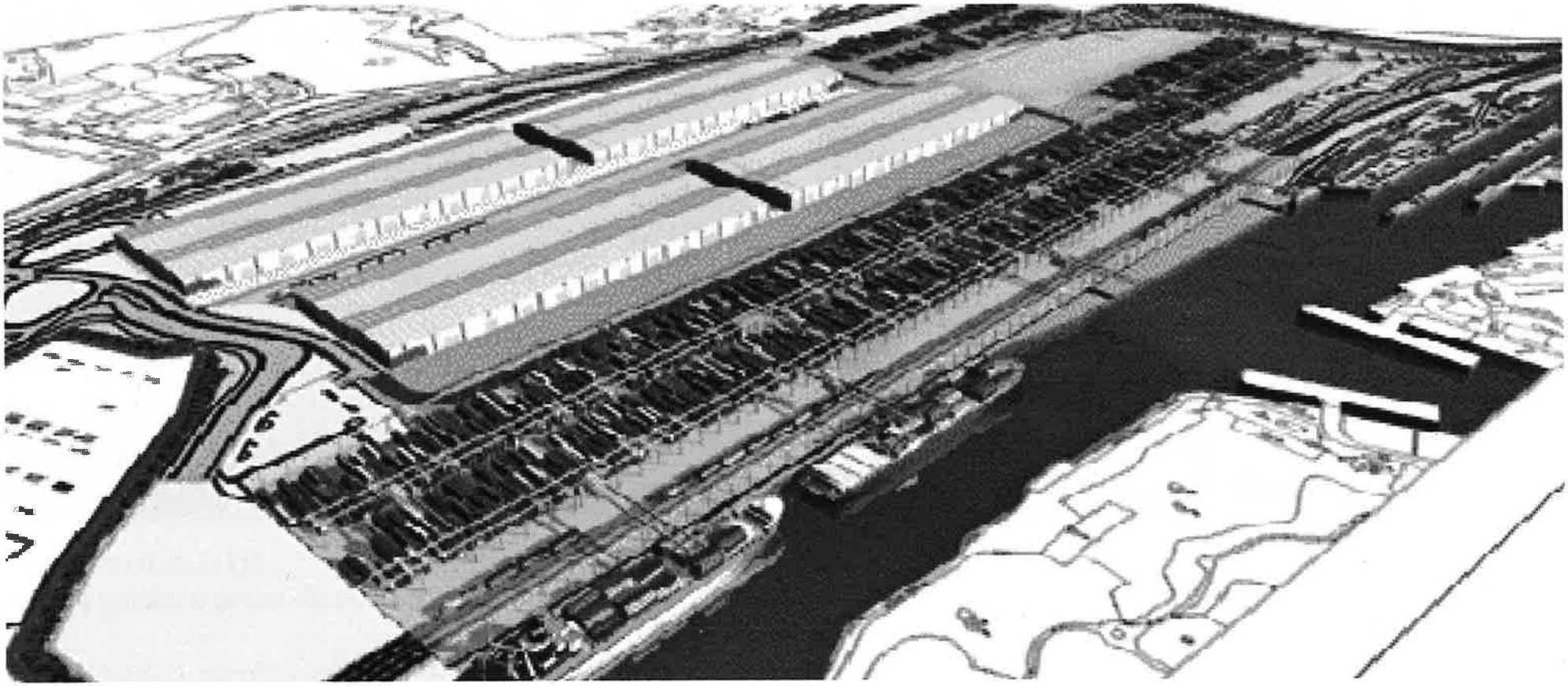


A green initiative to offer direct, waterborne access for international container trade between the Port of Liverpool and the UK's strongest container cargo region outside London. An operation using a push tug and 2 x 160 teu capacity barges is to be launched in September 2007 as the Peel Ports Liverpool - Manchester Shuttle, offering daily all-water access between the deepsea port at the mouth of the River Mersey and its cargo rich hinterland. Companies, including Tesco Ltd, have already participated in successful trial operations.

The Manchester Ship Canal - Port Salford

- A 21st century interchange for rail, barge and road

A comprehensive inland international terminal located on the Manchester Ship Canal and in the industrial heartland of the North West of England. Port Salford is to be developed on a 70 hectare site, with a railhead capable of handling 8 container trains a day, an integral barge feeder terminal connecting Port Salford with the Port of Liverpool, plus 150,000 sq m of rail connected warehousing and 15 hectares of container storage capacity.



Liverpool John Lennon Airport

One of Europe's fastest growing regional airports carrying over 4.5 million passengers a year and offering some 60 destinations, plus an airfreight hub.

The Superport - Liverpool

Combining the activities of Liverpool John Lennon Airport with the strength of the Port of Liverpool, supported by the unique infrastructure of the Manchester Ship Canal, Peel is creating a **'Superport'** to meet the needs of North West companies involved in international trade. Whether it's by sea, air, road, rail or canal, Peel in the North West of England is creating a network for tomorrow's supply chain solutions!



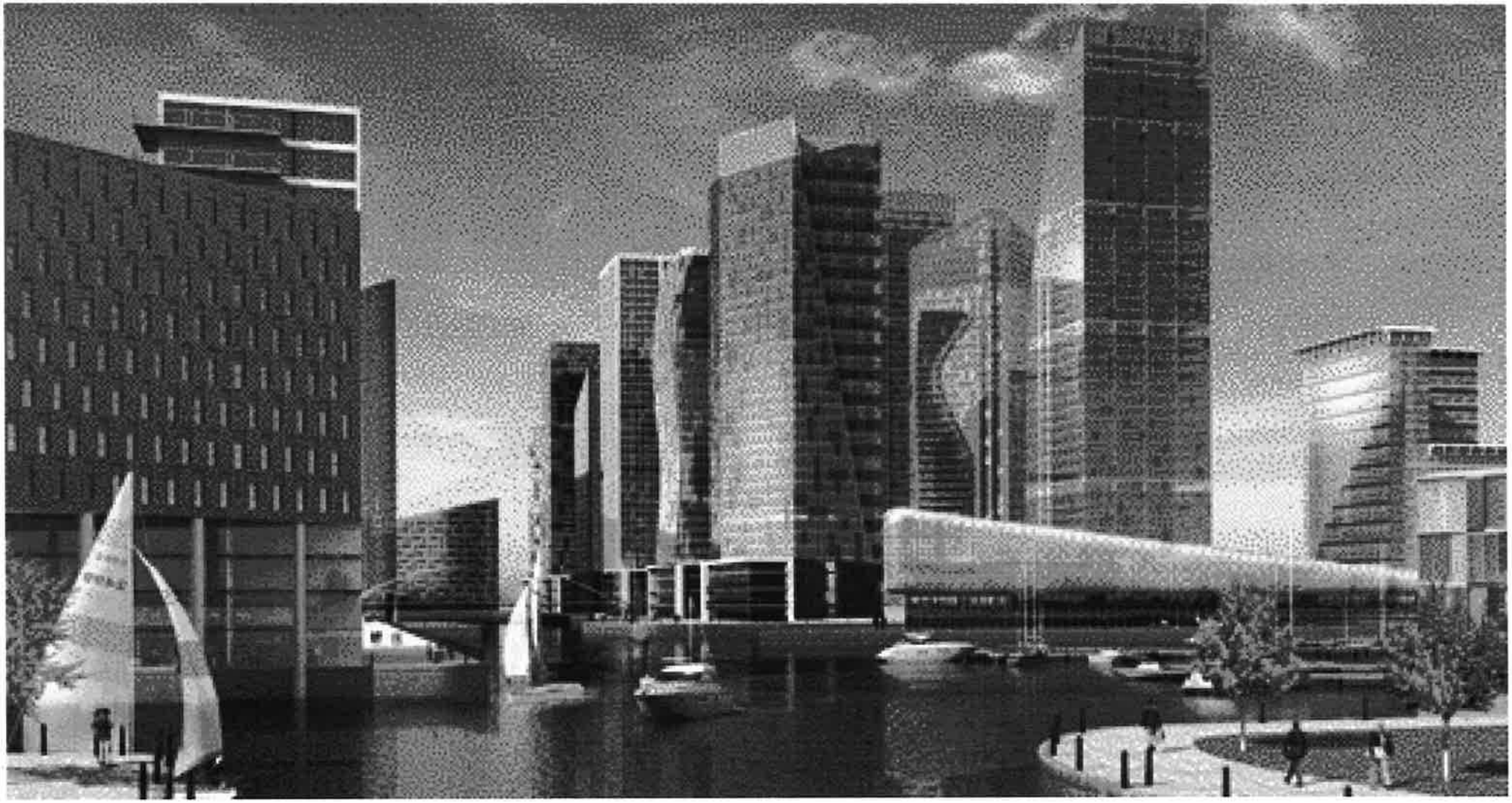



Peel's £10 billion regeneration of the Mersey waterfront - Liverpool

With Shanghai Tower, Uk's tallest building outside London.

Peel Property has announced plans to transform the waterfront on both banks of the River Mersey, creating a spectacular ocean gateway to the North of England. The skyscrapers of the £5.5 billion Liverpool Waters scheme (above) will include Shanghai Tower, the tallest building in Britain outside London. With the soaring towers of the £4.5 billion Wirral Waters project (over) they will create settings across the river from each other, to rival the spectacular cityscapes of Dubai, New York and Shanghai.

Peel's £10 billion regeneration of the Mersey waterfront - Wirral



Environmental Policy

PEEL ENVIRONMENTAL LTD manages and develops the Group's mineral, waste and renewable energy portfolio. This includes the Scout Moor Wind Farm, north of Manchester, consisting of 26 turbines generating 65MW of electricity, the planned Port of Liverpool 15MW 5 turbine Wind Farm and the established 3.6MW 6 turbine Seaforth Wind Farm at the mouth of the River Mersey.

A study has been commissioned by Peel Environmental and the Northwest Regional Development Agency into generating electricity by tidal and wave power on the Mersey Estuary.

LISTE DE CONTRÔLE NAVIRE / TERMINAL

	Partie A – Liquides en vrac – Généralités – Contrôles physiques				
	Liquides en vrac – Généralités	Navire-citerne	Terminal	Code	Remarques
1	Un accès sûr est prévu entre le navire et la terre.			R	
L1	Les défenses sont jugées satisfaisantes. Les câbles d'amarrage sont en place.				
2	Le navire est bien amarré, en considérant les conditions locales.			R	
3	Le système de communication convenu entre le navire et la terre fonctionne.			A R	
4	Les câbles de remorquage d'urgence sont correctement disposés et se trouvent à l'emplacement approprié, si le terminal l'exige.			R	
5	Les manches à incendie et le matériel de lutte contre l'incendie du navire sont en place et prêts pour une utilisation immédiate.			R	
6	Le matériel de lutte contre l'incendie du terminal est en place et prêt pour une utilisation immédiate.			R	
7	Les flexibles de cargaison du navire et/ou les bras ou flexibles de cargaison, les conduites de transport et les collecteurs du terminal sont en bon état, correctement installés et adaptés à l'usage prévu.			R	
7.1	Toutes les réductions sont homologuées et compatibles avec les conduites de cargaison et le type de cargaison.				
7.2	Tous les raccords à bride sont équipés avec les joints appropriés.				
7.3	Tous les boulons des brides sont correctement serrés.				
7.4	Les bras de chargement sont libres de se déplacer dans toutes les directions et/ou les flexibles disposent de suffisamment d'espace pour se déplacer facilement.				
7.5	Toutes les vannes sont vérifiées et dans la bonne position.				
7.6	Un éclairage adapté est assuré dans la zone de transfert de la cargaison et sur le chemin d'évacuation.				

	Partie A – Liquides en vrac – Généralités – Contrôles physiques				
	Liquides en vrac – Généralités	Navire-citerne	Terminal	Code	Remarques
9	Le circuit de transfert de la cargaison est suffisamment isolé et purgé pour pouvoir retirer en toute sécurité les brides d'obturation avant le raccordement.				
10	Les dalots à bord sont efficacement obturés et les gattes sont en place et vides.			R	
11	Les bouchons de dalot retirés temporairement resteront en permanence sous surveillance.			R	
12	Les aires de rétention à terre et les puisards sont correctement préparés.			R	
13	Les connexions pour cargaison, combustible et retour des vapeurs inutilisées du navire sont correctement obturées et assujetties. Tous les raccords à bride utilisés sont équipés avec les joints appropriés.				
14	Les connexions pour cargaison, combustible et retour des vapeurs inutilisées du terminal sont correctement obturées et assujetties. Tous les raccords à bride utilisés sont équipés avec les joints appropriés.				
15	Tous les orifices de visée, de jaugeage par le creux et d'échantillonnage des citernes à cargaison, des ballasts ou des soutes à combustible ont été fermés ou si nécessaire protégés par des pare-flammes en bon état.				
16	Les vannes de rejet à la mer et par-dessus bord sont fermées et visiblement assujetties quand elles sont inutilisées. Les parties amovibles entre les conduites de rejet à la mer et par-dessus bord et les conduites de cargaison sont retirées.				
17.1	L'ensemble des portes, sabords et fenêtres donnant sur l'extérieur des emménagements, des magasins et de la tranche des machines est fermé. Les prises d'air de la salle des machines peuvent être ouvertes.			R	
17.2	L'installation domestique de GPL est isolée au niveau du robinet d'arrêt principal.				
18	Les schémas d'emplacement des matériels de lutte contre l'incendie du navire sont disponibles.				Emplacement :

Si le navire-citerne est ou doit être équipé d'une installation à gaz inerte (IGI), les points suivants doivent être vérifiés physiquement :

	Partie A – Liquides en vrac – Généralités – Contrôles physiques				
	Liquides en vrac – Généralités	Navire-citerne	Terminal	Code	Remarques
	Installation à gaz inerte	Navire-citerne	Terminal	Code	Remarques
19	Les appareils de mesure de la pression et de la teneur en oxygène de l'IGI sont en bon état de marche.			R	
20	Toutes les citernes à cargaison se trouvent en surpression, avec une teneur en oxygène de leur atmosphère de 8 % en volume maximum.			P R	
20L	Toutes les citernes inertées sont marquées ou repérées par un panneau d'avertissement.				

	Partie BA – Liquides en vrac – Généralités – Vérifications verbales				
	Liquides en vrac – Généralités	Navire-citerne	Terminal	Code	Remarques
21	Le navire est prêt à se déplacer par ses propres moyens. Une barge sans moyens de propulsion doit pouvoir se déplacer à l'aide d'un remorqueur désigné dans les plus brefs délais.			P R	
22	Un quart de pont est en vigueur sur le navire et une supervision adéquate des opérations est assurée à bord et à terre.			R	
22L	Sur le navire et à terre, une personne compétente est nommée responsable de la manutention planifiée de la cargaison.				
23	Il y a suffisamment de personnel à bord et à terre pour faire face à une situation d'urgence.			R	
24.1	Les procédures de manutention de la cargaison, du combustible et du ballast ont fait l'objet d'un accord.			A R	
24.2	La pression de refoulement de la pompe de cargaison du navire est régulée pour tenir compte de la pression de service admissible de l'équipement du terminal.			A R	
24.3	La pression de refoulement de la pompe de cargaison à terre est régulée pour tenir compte de la pression de service admissible de l'équipement du navire.			A R	
25	Le signal d'alarme et la procédure d'arrêt d'urgence à utiliser à bord et à terre ont été expliqués et compris.			A	
26	Les fiches de données de sécurité des matériaux (MSDS) ou des documents équivalents ont été échangés sur demande pour le transfert de la cargaison.			P R	
26L	Le navire est homologué pour le transport du produit à charger.				
27	Les risques associés aux substances toxiques dans la cargaison manutentionnée ont été identifiés et compris.				Teneur en H_2S : Teneur en benzène :
28	Un raccord international pour tuyaux d'incendie a été prévu à terre si la législation l'exige.				
29	Le système convenu de ventilation des citernes sera utilisé.			A R	Méthode :
30.1	Les prescriptions relatives aux opérations citernes fermées ont fait l'objet d'un accord.			R	

	Partie BA – Liquides en vrac – Généralités – Vérifications verbales				
	Liquides en vrac – Généralités	Navire-citerne	Terminal	Code	Remarques
30.2	Le raccord de retour des vapeurs du navire est si nécessaire relié, au moyen d'une conduite de retour des vapeurs, au raccord de retour des vapeurs à terre.			R	
30.3	Si une protection contre les explosions est exigée, la conduite de retour des vapeurs est équipée d'un pare-flammes et/ou d'une protection contre les détonations.			R	
31	Le fonctionnement du système de sécurité pression/dépression a été vérifié. Le navire déchargeant ou le terminal garantissent que la vitesse de pompage ne dépasse pas la pression de service maximale convenue. Vitesse de pompage max. convenue : ..... (m^3/h) Pression max. convenue : ..... (kPa)			R	
32	Si une conduite de retour des vapeurs est raccordée, les paramètres de fonctionnement ont fait l'objet d'un accord.			A R	
33	Des alarmes de niveau haut et/ou des arrêts d'urgence indépendants, le cas échéant, sont en service et ont été testés.			A R	
34	Des moyens d'isolation électrique appropriés sont en place au niveau des connexions pour cargaison entre navire et terre, et le cas échéant des connexions pour retour des vapeurs. Moyens d'isolation installés à bord ou à terre : ..... (indiquer l'emplacement).			A R	
35	Les conduites à terre sont équipées de clapets de non-retour, ou bien des procédures permettant d'éviter un retour de produit ont été étudiées.			P R	
36	Les prescriptions relatives à l'interdiction de fumer ont fait l'objet d'un accord et sont respectées.			A R	
37	Les prescriptions relatives aux feux nus ont fait l'objet d'un accord et sont respectées.			A R	
38	Les prescriptions relatives aux appareils électroniques portatifs (par ex. de communication) sont respectées.			A R	
39	Les lampes électriques à main (lampes torches) sont d'un type agréé.				

	Partie BA – Liquides en vrac – Généralités – Vérifications verbales				
	Liquides en vrac – Généralités	Navire-citerne	Terminal	Code	Remarques
40	Les émetteurs-récepteurs VHF/UHF fixes et le système d'identification automatique (AIS) sont réglés sur une puissance correcte ou mis hors circuit.				
41	Les émetteurs-récepteurs VHF/UHF portatifs sont d'un type agréé.				
42	Les antennes des principaux émetteurs radio du navire sont mis à la masse et les radars sont débranchés/mis hors circuit.				
43	Les câbles d'alimentation des appareils électriques portatifs en zone dangereuse sont débranchés.				
44	Les unités de climatisation extérieures sont déconnectées, le cas échéant.				
45	Une surpression est maintenue à l'intérieur des emménagements et/ou de la timonerie, le cas échéant.				
46	Des mesures ont été prises pour assurer une ventilation mécanique suffisante de la chambre des pompes, le cas échéant.			R	
47	Une issue de secours est prévue.				
48	Les conditions météorologiques, les limites maximales de vitesse du vent et de houle pour les opérations ont fait l'objet d'un accord. Arrêt transfert à : ..... Déconnexion à : ..... Appareillage à :			A	
49	Des protocoles de sécurité ont fait l'objet d'un accord entre l'Officier de sûreté du navire et l'Officier de sûreté de l'installation portuaire, le cas échéant.			A	
50	Si nécessaire, des procédures ont été convenues pour la réception d'azote fourni depuis la terre en vue de l'inertage ou de la purge des citernes à cargaison, ou du soufflage des conduites vers le navire.			A P	

Partie BA – Liquides en vrac – Généralités – Vérifications verbales				
Liquides en vrac – Généralités	Navire-citerne	Terminal	Code	Remarques

Si le navire-citerne est ou doit être équipé d'une installation à gaz inerte (IGI), les points suivants doivent être vérifiés :

	Installation à gaz inerte	Navire-citerne	Terminal	Code	Remarques
51	L'IGI est pleinement opérationnelle et en bon état de marche.			P	
52	Les siphons de pont ou les dispositifs équivalents sont en bon état de marche.			R	
53	Les niveaux dans les casse-pression/casse-vide sont corrects, le cas échéant.			R	
54	Les analyseurs d'oxygène fixes et portatifs ont été étalonnés et fonctionnent correctement.			R	
55	Toutes les vannes d'alimentation en gaz inerte des citernes (si le navire en est équipé) sont en position correcte et verrouillées.			R	
56	Toutes les personnes en charge des opérations sur la cargaison savent qu'en cas d'avarie de l'installation à gaz inerte, les opérations de déchargement doivent être interrompues et le terminal prévenu.				

Si le navire-citerne est équipé d'une installation de lavage au pétrole brut et prévoit de l'utiliser, les points suivants doivent être vérifiés :

	Lavage au pétrole brut	Navire-citerne	Terminal	Code	Remarques
57	S/O				
58	S/O				

Si le navire prévoit de laver ses citernes à quai, les points suivants doivent être vérifiés :

	Nettoyage des citernes	Navire-citerne	Terminal	Code	Remarques
59	Un lavage de citernes est prévu pendant l'escale du navire, à quai.	Oui/Non*	Oui/Non*		
60	Si 'oui', les procédures de nettoyage ont fait l'objet d'un accord et les autorisations ont été				

	obtenues.				
61	Les opérations de dégazage des citernes ont obtenu l'accord de l'autorité compétente.	Oui/Non*	Oui/Non*		

* Rayer la mention inutile.

	Partie C – Liquides chimiques en vrac – Vérifications verbales				
	Liquides chimiques en vrac	Navire-citerne	Terminal	Code	Remarques
1	Les fiches de données de sécurité (MSDS) ou des documents équivalents sont disponibles et fournissent les données nécessaires pour manutentionner la cargaison en toute sécurité.				
2	Un certificat d'inhibition a été fourni par le fabricant, le cas échéant.			P	
3	Les tenues et les équipements de protection (y compris les appareils respiratoires autonomes) sont en nombre suffisant, prêts pour une utilisation immédiate, et adaptés au produit manutentionné.				
4	Les mesures à prendre en cas de contact accidentel avec la cargaison ont fait l'objet d'un accord.				
5	La cadence de manutention de la cargaison est compatible avec le système automatique d'arrêt d'urgence, si ce dernier est en service.			A	
6	Les systèmes de mesure et d'alarme de la cargaison sont bien réglés et fonctionnent correctement.				
7	Des appareils portatifs de détection des vapeurs adaptés aux produits manutentionnés sont immédiatement disponibles.				
8	Les informations concernant le matériel et les procédures de lutte contre l'incendie ont été échangées.				
9	Les flexibles de transfert et les joints sont fabriqués dans un matériau approprié, résistant à l'action des produits manutentionnés.				
10	La cargaison est manutentionnée au moyen des conduites fixes en place.			P	
11	Si nécessaire, des procédures ont été convenues pour la réception d'azote fourni depuis la terre en vue de l'inertage ou de la purge des citernes à cargaison, ou du soufflage des conduites vers le navire.			A P	
12	Si nécessaire, le système d'arrosage en pluie du pont du navire est prêt pour une utilisation immédiate.				

	Partie D – Gaz liquéfiés en vrac – Vérifications verbales				
	Gaz liquéfiés en vrac	Navire-citerne	Terminal	Code	Remarques
1	Les fiches de données de sécurité (MSDS) ou des documents équivalents sont disponibles et fournissent les données nécessaires pour manipuler la cargaison en toute sécurité.				
2	Un certificat d'inhibition a été fourni par le fabricant, le cas échéant.			P	
3	Le système d'arrosage en pluie du pont du navire est prêt pour une utilisation immédiate.				
4	Les tenues et les équipements de protection (y compris les appareils respiratoires autonomes) sont en nombre suffisant, prêts pour une utilisation immédiate, et adaptés au produit manutentionné.				
5	Les espaces de cales et entre barrières sont correctement inertés ou remplis avec de l'air sec, selon les besoins.				
6	Toutes les vannes télécommandées sont en bon état de marche.				
7	Les pompes et compresseurs nécessaires pour la cargaison sont en bon état de marche, et les pressions maximales de service ont fait l'objet d'un accord entre le navire et la terre.			A	
8	Les équipements de reliquéfaction ou de contrôle de l'évaporation de la cargaison sont en bon état de marche.				
9	Le dispositif de détection de gaz a été correctement réglé pour la cargaison, étalonné, testé et inspecté, et est en bon état de marche.				
10	Les systèmes de mesure et d'alarme de la cargaison sont bien réglés et fonctionnent correctement.				
11	Les arrêts d'urgence ont été testés et fonctionnent correctement.				
12	Le navire et le terminal ont échangé les temps de fermeture de leurs vannes d'arrêt d'urgence, leurs vannes automatiques ou leurs dispositifs similaires respectifs.			A	Navire : Terminal :
13	Des informations ont été échangées entre le navire et la terre sur les valeurs maximales/minimales de température et de pression de la cargaison à manutentionner.			A	
14	Les citernes à cargaison sont protégées en permanence contre un risque éventuel de				

	Partie D – Gaz liquéfiés en vrac – Vérifications verbales				
	Gaz liquéfiés en vrac	Navire-citerne	Terminal	Code	Remarques
	débordement tout au long des opérations de manutention.				
15	La salle des compresseurs est correctement ventilée, la salle des moteurs électriques est correctement pressurisée, et le système d'alarme fonctionne.				
16	Les soupapes de sûreté des citernes sont correctement réglées, et les réglages effectifs affichés de façon claire et visible. (Consignation des réglages ci-dessous.)				
17	Les paramètres de fonctionnement (pression d'ouverture) des soupapes (tarage maximal admissible des soupapes de sûreté) du navire ont été pris en compte et ont fait l'objet d'un accord.				
18	Si nécessaire, les autorités (portuaires) ont été informées avant le début des opérations de manutention de la cargaison.			P	

Remarques
Réglages des soupapes de sûreté des citernes à cargaison :

DECLARATION

Nous, les soussignés, avons vérifié tous les points des parties A et B, et le cas échéant de la partie C ou D, conformément aux instructions, et avons répondu correctement au mieux de nos connaissances.

Nous nous sommes également entendus pour renouveler quand cela s'avérera nécessaire les vérifications concernant les points identifiés par la lettre 'R' de la liste de contrôle, à des intervalles ne pouvant excéder ..... heures.

Si nous prenons connaissance d'un changement dans un point quel qu'il soit, nous en informerons immédiatement l'autre partie.

Pour le navire fluvial	Pour le terminal
Nom :	Nom : .....
Fonction :	Poste ou titre : .....
Signature :	Signature : .....
Date :	Date : .....
Heure :	Heure : .....

Contrôle des vérifications périodiques :

Date :								
Heure :								
Visa navire :								
Visa terminal :								

TANKER - SHORE SAFETY CHECK-LIST

	Part A - Bulk Liquid General - Physical Checks				
	Bulk Liquid - General	Tanker	Terminal	Code	Remarks
1	There is safe access between the tanker and shore.			R	
L1	The fendering arrangements are assessed as being satisfactory. The fender pennants are in order.				
2	The tanker is securely moored, considering the conditions locally.			R	
3	The agreed ship/shore communication system is operative.			A R	
4	Emergency towing-off pennants are correctly rigged and positioned, if required by terminal.			R	
5	The tanker's fire hoses and fire-fighting equipment are positioned and ready for immediate use.			R	
6	The terminal's fire-fighting equipment is positioned and ready for immediate use.			R	
7	The tanker's cargo hoses and/or the terminal arms or hoses, pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended.			R	
7.1	All reducers are approved and compatible with cargo lines and the type of cargo.				
7.2	All connection flanges are fitted with the appropriate gaskets.				
7.3	All flange bolts are properly tightened.				
7.4	The loading arms are free to move in all directions and/or the hoses have enough room for easy movement.				
7.5	All valves are checked and in the right position.				
7.6	Adequate lighting is ensured at the cargo transfer area and emergency escape route.				
9	The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection.				
10	Scuppers and save-alls on board are effectively plugged and drip trays are in position and empty.			R	
11	Scupper plugs temporarily removed will be monitored constantly.			R	

Comment [ME1]: Large volumes of liquid in one place, e.g. in an oil tanker

Comment [ME2]: Fenders = rope or rubber buffers hung around ships or quays to keep sides of ship from rubbing and guard against low-speed impacts

Comment [ME3]: Pennant here = length of wire rope or cable (may also be "pendant"). It is NOT a small flag!

Comment [ME4]: See previous note!

Comment [ME5]: Terminal = onshore oil handling facility, may both load and unload tankers.

Comment [ME6]: Located where they may be needed if a fire occurs

Comment [ME7]: Articulated arms carrying hoses and connectors to link tanker to terminal

Comment [ME8]: Pipe connector reducers to go from e.g. 6-inch to 4-inch pipe

Comment [ME9]: See note ME7

Comment [ME10]: Cargo transfer system comprises hoses which will have been used for oil transfer before. For cleanliness and safety, end connectors will often be blanked off with blank flanges - obviously removing these while there is still oil in the line is dangerous and messy, so the system needs to be properly drained first.

Comment [ME11]: Scupper is an opening in the side of a ship at deck level to allow water to run off. Needs to be plugged during oil transfer to prevent any pollution by oil running off the deck if spilled.

Comment [ME12]: A save-all is a container used to catch drips or spill... [1]

Comment [ME13]: If the plug is removed from a scupper to allow e.g... [2]

	Part A - Bulk Liquid General - Physical Checks				
	Bulk Liquid - General	**Tanker**	**Terminal**	**Code**	**Remarks**
12	Shore spill containment and sumps are correctly managed.			R	
13	The tanker's unused cargo, bunker and vapour return connections are properly secured. All connected flanges are fitted with the appropriate gaskets.				
14	The terminal's unused cargo, bunker and vapour return connections are properly secured. All connected flanges are fitted with the appropriate gaskets.				
15	All sighting, ullaging and sampling ports of the cargo, ballast or bunker tanks have been closed or protected by flame arrestors in good condition, if required.				
16	Sea and overboard discharge valves, when not in use, are closed and visibly secured. The removable parts between ballast and overboard discharge lines and cargo lines are removed.				
17.1	All external doors, ports and windows in the accommodation, stores and machinery spaces are closed. Engine room vents may be open.			R	
17.2	The LPG domestic installation is isolated at the main stop valve.				
18	The tanker's emergency fire control plans are available.				Location:

If the tanker is fitted, or is required to be fitted, with an inert gas system (IGS), the following points should be physically checked:

	Inert Gas System	**Tanker**	**Terminal**	**Code**	**Remarks**
19	IGS pressure and oxygen contents measuring equipment are in good working order.			R	
20	All cargo tank atmospheres are at positive pressure with oxygen content of 8% or less by volume.			P R	
20L	All inerted tanks are marked or labelled with a warning sign.				

Comment [ME1]: Large volumes of liquid in one place, e.g. in an oil tanker

Comment [ME14]: On a temporary basis, a retainer like a sand-filled snake or bags. More permanent forms are bunds or troughs,

Comment [ME15]: "ullaging" = measurement of the empty space above a liquid in a tank (and by derivation, of the amount of liquid in the tank)

Comment [ME16]: liquid propane gas

Comment [ME17]: Inert gas system

Comment [ME18]: inerted = tank has been filled with an inert gas, usually nitrogen, to ensure no build-up of explosive/flammable fume from residual product

	Part BA - Bulk Liquid General - Verbal Verification				
	Bulk Liquid – General	Tanker	Terminal	Code	Remarks
21	The tanker is ready to move under its own power. A dumb barge without own propulsion means should be able to move with the help of a designated tug at short notice.			P R	
22	There is an effective deck watch in attendance on board and adequate supervision of operations on the tanker and ashore.			R	
22L	On the tanker and the shore, a competent person is appointed who is responsible for the planned cargo handling.				
23	There are sufficient personnel on board and ashore to deal with an emergency.			R	
24.1	The procedures for cargo, bunker and ballast handling have been agreed.			A R	
24.2	The outlet pressure of the cargo pump of the tanker is regulated to take account of the admissible working pressure of the equipment of the terminal			A R	
24.3	The outlet pressure of the shore's cargo pump is regulated to take account of the admissible working pressure of the equipment on the tanker.			A R	
25	The emergency signal and shutdown procedure to be used by the tanker and shore have been explained and understood.			A	
26	Material Safety Data Sheets (MSDS), or equivalent, for the cargo transfer have been exchanged where requested.			P R	
26L	The tanker is approved to transport the product to be loaded.				
27	The hazards associated with toxic substances in the cargo being handled have been identified and understood.				H_2S content: Benzene content:
28	An International Shore Fire Connection has been provided, if required by legislation.				
29	The agreed tank venting system will be used.			A R	Method:
30.1	The requirements for closed operations have been agreed.			R	
30.2	The tanker's vapour return connection, if required, is connected, by means of a vapour return line, to the vapour return connection to the shore.			R	

Comment [ME19]: dumb = unpowered

Comment [ME20]: deck watch = personnel on duty to monitor activity on deck

Comment [ME21]: This provides an internationally-standardised flange coupling allowing ths ship's and shore's firefighting mains to be connected so ensuring adequate water supply. Not needed everywhere, but where the legislation requires it it must be provided.

	Part BA - Bulk Liquid General - Verbal Verification				
	Bulk Liquid – General	Tanker	Terminal	Code	Remarks
30.3	If protection against explosions is required, the vapour return line is equipped with a flame arrestor and/or detonation protection.			R	
31	The operation of the P/V system has been verified. The delivering tanker or shore guarantees that the pumping rate does not exceed the maximum working pressure agreed. Agreed max pumping rate: ..... (m^3/h) Agreed max pressure: ..... (kPa)			R	
32	Where a vapour return line is connected, operating parameters have been agreed.			A R	
33	Independent high level alarms and/or emergency stops, if fitted, are operational and have been tested.			A R	
34	Adequate electrical insulating means are in place in the tanker/shore cargo and, if applicable vapour return line connections. The insulating means is installed either aboard or ashore: ..... (state where).			A R	
35	Shore lines are fitted with a non-return valve, or procedures to avoid back filling have been discussed.			P R	
36	Smoking requirements are being observed and have been agreed.			A R	
37	Naked light regulations are being observed and have been agreed.			A R	
38	Portable electronic (e.g. communication) devices requirements are observed.			A R	
39	Hand torches (flashlights) are of an approved type.				
40	Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off.				
41	Portable VHF/UHF transceivers are of an approved type.				
42	The tanker's main radio transmitter aerials are earthed and radars are disconnected / switched off.				

Comment [ME22]: P/ V stands for Pressure / vacuum and is a pressure vacuum release valve

Comment [ME23]: "high level alarms" - "high level" refers to the height of the level of the product contained within a cargo tank, ie alarm sounds when the level is approaching the top of the tank

Comment [ME24]: back filling = liquid flowing the wrong way

Comment [ME25]: = monitored

	Part BA - Bulk Liquid General - Verbal Verification				
	Bulk Liquid – General	Tanker	Terminal	Code	Remarks
43	Electric cables to portable electrical equipment within the hazardous area are disconnected from power.				
44	Window type air conditioning units are disconnected, if applicable.				
45	Positive pressure is maintained inside the accommodation and/or wheelhouse, if applicable.				
46	Measures have been taken to ensure sufficient mechanical ventilation in the pumproom, if applicable.			R	
47	There is provision for an emergency escape.				
48	The weather conditions, maximum wind and swell criteria for operations have been agreed. Stop cargo operations at: ..... Disconnect at: ..... Unmoor at:			A	
49	Security protocols have been agreed between the Ship Security Officer and the Port Facility Security Officer, if appropriate.			A	
50	Where appropriate, procedures have been agreed for receiving nitrogen supplied from shore, either for inerting or purging cargo tanks, or for line clearing into the tanker.			A P	

Comment [ME26]: Air inside is pressurized slightly above atmospheric to prevent entry of fume

Comment [ME27]: Do these when weather conditions, maximum wind and/or swell criteria are reached/exceeded

Comment [ME28]: Disconnect cargo transfer hoses/arms

Comment [ME29]: Release vessel from the mooring

Comment [ME30]: blowing hoses clear of residual oil

If the tanker is fitted, or is required to be fitted, with an inert gas system (IGS), the following statements should be addressed:

	Inert Gas System	Tanker	Terminal	Code	Remarks
51	The IGS is fully operational and in good working order.			P	
52	Deck seals, or equivalent, are in good working order.			R	
53	Liquid levels in pressure/vacuum breakers are correct, if applicable.			R	
54	The fixed and portable oxygen analysers have been calibrated and are working properly.			R	
55	All the individual tank IG valves (if fitted) are correctly set and locked.			R	
56	All personnel in charge of cargo operations are aware that, in the event of failure of the inert gas plant, discharge operations should cease and the terminal be advised.				

If the tanker is fitted with a Crude Oil Washing (COW) system, and intends to crude oil wash, the following statements should be addressed:

	Crude Oil Washing	Tanker	Terminal	Code	Remarks
57	N/A				
58	N/A				

If the tanker is planning to tank clean alongside, the following statements should be addressed:

	Tank Cleaning	Tanker	Terminal	Code	Remarks
59	Tank cleaning operations are planned during the tanker's stay alongside the shore installation.	Yes/No*	Yes/No*		
60	If 'yes', the procedures and approvals for tank cleaning have been agreed.				
61	Permission has been granted for gas freeing operations by the competent authority.	Yes/No*	Yes/No*		

*Delete Yes or No as appropriate

Comment [ME31]: clean the cargo tanks while alongside the onshore installation

Comment [ME32]: "gas freeing" refers to the removal (by displacement) of gases from a tank in order to make the tank safe for entry

	Part 'C' Bulk Chemicals - Verbal Verification				
	Bulk Liquid Chemicals	Tanker	Terminal	Code	Remarks
1	Material Safety Data Sheets, or equivalent, are available giving the necessary data for the safe handling of the cargo.				
2	A manufacturer's inhibition certificate, where applicable, has been provided.			P	
3	Sufficient protective clothing and equipment (including self-contained breathing apparatus) is ready for immediate use and is suitable for the product being handled.				
4	Countermeasures in the event of accidental personal contact with the cargo have been agreed.				
5	The cargo handling rate is compatible with the automatic shutdown system, if in use.			A	
6	Cargo system gauges and alarms are correctly set and in good order.				
7	Portable vapour detection instruments are readily available for the products being handled.				
8	Information on fire-fighting equipment and procedures has been exchanged.				
9	Transfer hoses and gaskets are of suitable material, resistant to the action of the products being handled.				
10	Cargo handling is being performed with the permanent installed pipeline system.			P	
11	Where appropriate, procedures have been agreed for receiving nitrogen supplied from shore, either for inerting or purging cargo tanks, or for line clearing into the tanker.			A P	
12	If required, the cargo deck water spray system is ready for immediate use.				

Comment [ME33]: certificate from the shipper or manufacturer confirming that the chemical in the cargo has been stabilized or otherwise inhibited from reaction. See http://cfr.vlex.com/vid/153-912-certificate-inhibition-stabilization-19856746

Comment [ME34]: i.e. cargo is not to be transferred at a rate above that the ASS can safely shut down

Comment [ME35]: i.e. will not be rotted/corroded by the liquid being handled

	Part 'D' Bulk Liquefied Gases – Verbal Verification				
	Bulk Liquefied Gases	**Tanker**	**Terminal**	**Code**	**Remarks**
1	Material Safety Data Sheets, or equivalent, are available giving the necessary data for the safe handling of the cargo.				
2	A manufacturer's inhibition certificate, where applicable, has been provided.			P	
3	The cargo deck water spray system is ready for immediate use.				
4	Sufficient protective clothing and equipment (including self-contained breathing apparatus) is ready for immediate use and is suitable for the products being handled.				
5	Hold and inter-barrier spaces are properly inerted or filled with dry air, as required.				
6	All remote control valves are in working order.				
7	The required cargo pumps and compressors are in good order, and the maximum working pressures have been agreed between tanker and shore.			A	
8	Re-liquefaction or boil-off control equipment is in good order.				
9	The gas detection equipment has been properly set for the cargo, is calibrated, has been tested and inspected and is in good order.				
10	Cargo system gauges and alarms are correctly set and in good order.				
11	Emergency shutdown systems have been tested and are working properly.				
12	Tanker and shore have informed each other of the closing rate of ESD valves, automatic valves or similar devices.			A	Ship: Shore:
13	Information has been exchanged between tanker and shore on the maximum/minimum temperatures/ pressures of the cargo to be handled.			A	
14	Cargo tanks are protected against inadvertent overfilling at all times while any cargo operations are in progress.				
15	The compressor room is properly ventilated, the electrical motor room is properly pressurised and the alarm system is working.				

Comment [ME36]: boil-off = conversion of liquid gas to vapour; re-liquefaction = conversion of vapour back to liquid

Comment [ME37]: Emergency Shut Down

	Part 'D' Bulk Liquefied Gases – Verbal Verification				
	Bulk Liquefied Gases	Tanker	Terminal	Code	Remarks
16	Cargo tank relief valves are set correctly and actual relief valve settings are clearly and visibly displayed. (Record settings below.)				
17	The operating parameters (opening pressure) of the pressure valves (MARVS) of the tanker have been considered and agreed.				
18	The (port) authorities have been notified prior to cargo handling, if required.			P	

Comment [ME38]: Maximum Allowable Relief Valve Setting

Remarks
Cargo Tank Relief Valve Settings:

DECLARATION

We, the undersigned, have checked the above items in Parts A and B and, where appropriate, Part C or D, in accordance with the instructions and have satisfied ourselves that the entries we have made are correct.

We have also made arrangements to carry out repetitive checks as necessary and agreed that those items coded 'R' in the Checklist should be re-checked at intervals not exceeding ..... hours.

Comment [ME39]: i.e. the feature being checked is re-checked at defined intervals

If, to our knowledge, the status of any item changes, we will immediately inform the other party.

For Inland tanker	For Shore
Name:	Name: .....
Rank:	Position or Title: .....
Signature:	Signature: .....
Date:	Date: .....
Time:	Time: .....

Record of repetitive checks:

Date:								
Time:								
Initials for tanker:								
Initials for shore:								

Page 1: [1] Comment [ME12]	Mark Everson	18/11/2010 14:06:00

A save-all is a container used to catch drips or spills - they're plugged during oild transfer ops to prevent contamination with spilled oil

Page 1: [2] Comment [ME13]	Mark Everson	18/11/2010 14:07:00

If the plug is removed from a scupper to allow e.g. rainwater to drain away, you'll keep track of the plug [and make sure it's replaced!]

Plano Mestre do Porto

4.1 Introdução

O objectivo do Plano Mestre do Porto é produzir uma projecção flexível para o futuro do Porto de Maputo. A abordagem adoptada tem sido variada e inovadora, contendo todas as opções para a reabilitação das presentes facilidades, e considerando o desenvolvimento de novas facilidades. O plano foi depois refinado de acordo com as linhas directrizes da curva de procura projectada para a produtividade operacional de carga, e com as restrições físicas dos diversos terminais. Os requisitos principais utilizados para a consideração das diversas opções foram os seguintes:

- Possibilidade de expansão de modo a satisfazer requisitos futuros.
- Flexibilidade das operações em terra para permitir a introdução de novos cursos de carga.
- Requisitos a longo prazo para navios e facilidade de acesso a terminais.

O plano mestre foi estudado em três estágios, cada um com os seguintes objectivos:

1ª. Fase - Esta fase está relacionada com o período principal de reabilitação, concentrando-se no melhoramento das facilidades existentes, e apoiando, ao mesmo tempo, as presentes operações e locatários. Utilizou-se o conceito da criação de pontos de acesso individual para diferentes terminais, em conjunção com a clara delineação das propriedades, através do estabelecimento de mais vedações de segurança. As vantagens desta abordagem incluem o fim da necessidade de se transportar a carga por estrada ou por vias férreas, através de terminais adjacentes, para se poder entrar no terminal necessário. Esta abordagem facilita também a gestão efectiva da protecção e segurança.
A dragagem de manuntenção feita às profundidades do presente plano e às profundidades exigidas pelos terminais seria incluída nesta fase.

2ª. Fase - Esta fase está relacionada com o aumento de tráfego indicado na análise da procura, incluindo uma percentagem para o aumento do tráfego tanto de navios como dos transportes por terra. O desenvolvimento dos presentes terminais seria necessário durante este período. Realizar-se-ão durante esta fase os novos projectos industriais já identificados, e criar-se-ão novas facilidades, talvez em joint ventures com firmas de transporte / fabricantes. O movimento de tráfego aumentaria também, em paralelo com o desenvolvimento industrial e o crescimento económico.

3ª. Fase - Trata-se aqui efectivamente de uma visão do Porto de Maputo como um porto próspero de granéis, carga fraccionada e contentores. Serão precisos vários terminais novos, os quais ofereçerão acesso a graneleiros e contentores maiores.

O desenvolvimento do plano mestre baseia-se no aumento de tráfego indicado na análise da procura, começando por uma análise dos requisitos necessários aos terminais.

4.2 Especificação das Facilidades

As facilidades que são necessárias devem ser calculadas e especificadas a fim de se poderem avaliar as diversas opções de reabilitação e desenvolvimento. Os detalhes principais que necessitam de ser especificados são os seguintes:

Condições Necessárias dos Terminais
Profundidade da Água
Condições de Apoio em Terra.

4.2.1 Condições Necessárias dos Terminais

A utilização dos terminais foi inicialmente considerada de acordo com as seguintes linhas directrizes:

Terminais presentes dedicados a cargas específicas ou alugados a operadores de terminais diferentes.

O agrupamento de cargas compatíveis, em termos dos requisitos de manejamento, métodos de armazenagem, e locais onde os 'pacotes' de várias cargas possam ser transportados num navio, por exemplo produtos de aço e ligas de ferro em tamanhos práticos a granel.

Terminais de comprimento necessário para navios típicos.

O valor de base do prognóstico de tráfego foi utilizado para calcular os requisitos dos terminais; achamos que este seja um objectivo positivo e realizável no qual se podem fundamentar os desenvolvimentos. Na maioria das cargas gerais e fraccionadas, os números atingem um ponto máximo por volta do ano 2002. Estes números foram assim utilizados para calcular os requisitos óptimos.

Os requisitos dos terminais foram calculados tomando em consideração as percentagens médias da produção de várias operações de carregamento por hora, juntamente com os métodos de manejamento considerados, e um certo progresso na performance. Consideraram-se operações de duas e três mudanças que possam fornecer indicações relativas à produção médial anual. A verdadeira produção dependerá de uma taxa de ocupação de terminal que forneça às firmas de transporte um período de tempo de movimentação aceitável, sem produzir períodos inaceitáveis de espera nos terminais ocupados. Usaram-se várias taxas para este cálculo, dependendo do ramo de comércio e dos navios utilizados, indo de 30% no caso de navios frigoríficos, a 40% para graneleiros, e até 50% para cargueiros genéricos mais pequenos.

Combinando isto com a percentagem total de procura da produtividade operacional anual de várias combinações de carga, gerou-se uma série de requisitos para os

De acordo com Africa Pilot, na área em redor de Maputo forma-se nevoeiro cerca de 15 dias por ano. O nevoeiro surge principalmente entre Abril e Setembro.

4.3.2 Condições Hidrográficas

As condições hidrográficas, tais como marés, correntes e ondas, são muito importantes para a avaliação das possibilidades de utilização de um porto e suas facilidades. As nossas fontes de informação são as Tabelas das Marés do Ministério Britânico da Marinha (British Admiralty), assim como o Relatório sobre o Plano Mestre do Porto de Maputo, datado de fins da década de 50.

4.3.2.1 Marés

De acordo com as Tabelas de Marés do Ministério Britânico da Marinha, os níveis característicos das marés no Porto de Maputo são os seguintes:

Média de Marés Vivas Altas, MMVA	+3,5
Média de Marés Mortas Altas, MMMA	+2,4
Média de Marés Mortas Baixas, MMMB	+1,6
Média de Marés Vivas Baixas, MMVB	+0,5

As condições das marés na Matola são semelhantes, excepto que o nível da MMVA é de +3,6m.

Em Maputo, as marés máxima e mínima durante o período de 1939 a 1957 foram de +3,90 e +0,12 m respectivamente.

Os níveis de água das marés são também influenciados pela pressão atmosférica. Considera-se que esta influência seja pequena, excepto quando se forma o raro ciclone.

4.3.2.2 Correntes

Os portos de Maputo e Matola são afectados pelas correntes que se formam fora dos cais. As correntes são impelidas principalmente pelas marés. A corrente do rio Esposito Santo influencia também as correntes.

De acordo com o Roteiro Marítimo 646, do Ministério Britânico da Marinha, na área entre os cais de Maputo e da Ponta Chaluquene as correntes marítimas durante as marés vivas da estação seca são de 1,3 e 1,4 m/s respectivamente.

Empreenderam-se, durante a década de 50, medições por metros de corrente. As medidas tiradas demonstram que as correntes ao longo dos cais de Maputo são inferiores aos números acima indicados. Na Matola, contudo, as correntes são fortes, sendo o registo da corrente máxima de cerca de 3,3 m/s.

4.3.2.3 Ondas

De acordo com o relatório do Plano Mestre, formulado na década de 50, as condições das ondas não apresentam obstáculos à chegada e partida de embarcações ao/do porto de Maputo.

A área a leste do porto de Maputo é pouco profunda, e as ondas provenientes do Oceano Índico diminuem antes de penetrarem na área do porto de Maputo. Considera-se que as ondas nos cais de Maputo interrompam o processamento de cargas de pequenas embarcações em apenas alguns dias do ano.

4.3.3 Solos

Encontrámos informação sobre as condições geológicas e sobre os solos da área do porto apenas num relatório do Plano Mestre efectuado na década de 50, assim como no Plano Mestre feito por SORO em 1980. Além disso, a informação contida nestes relatórios é escassa.

terminais, permitindo a formulação de uma solução aceitável para os desenhos dos terminais.

4.2.2 Profundidade da Água

Especificou-se a profundidade da água em cada terminal, de acordo com os tamanhos previstos para os navios no comércio em questão. Sempre que possível, atribuiram-se requisitos de terminais mais profundos ao cais mais apropriado. Sempre que se alcançaram limites, consideraram-se os mesmos em conjunção com os limites totais do terminal, em termos de opções para estabelecimentos futuros.

4.2.3 Condições de Apoio em Terra

O requisito do apoio em terra foi também calculado, particularmente em situações onde se prevê que as necessidades de armazenamento vão aumentar. Isto diz respeito especialmente ao tráfego de contentores, em que a necessidade de armazenamento ultrapassará provavelmente o espaço actualmente disponível antes de se atingir a capacidade máxima do terminal. Fora disso a área de armazenamento não constitui um problema importante, e concentrou-se o plano mestre na reclamação por fases das presentes áreas de apoio.

A figura 4.1 constitui um sumário das especificações das facilidades, tendo sido utilizada como base das opções de desenvolvimento, em paralelo com o levantamento topográfico das condições físicas actuais e com os critérios de projecção.

4.3 Condições Físicas Actuais

4.3.1 Meteorologia

Obtivémos informação sobre as condições meteorológicas nos seguintes documentos:

- Plano Mestre do Porto de Maputo, de 1952
- British Admiralty, Africa Pilot, Volume III.

4.3.1.1 Ventos

A importância das condições dos ventos é considerável em relação à ancoragem dos navios e também ao carregamento e descarregamento das cargas. Ventos fortes podem influenciar a ancoragem das embarcações, assim como o número de rebocadores que se deve utilizar. Ventos muito fortes, de velocidade superior a 15 m/s, podem impedir o trabalho com guindastes.

De acordo com as tabelas climáticas compiladas de 1935 a 1964, as brisas terrestres e marítimas são regulares. Regra geral, os ventos sopram de oriente. De manhã as direcções dos ventos são mais uniformes, mas à tarde, altura em que as brisas marítimas ocorrem, os ventos sopram principalmente de NE-SE.

Os períodos de calmaria ocorrem por alturas do nascer e pôr do sol. As velocidades dos ventos são baixas, e ventos fortes raramente ocorrem. De acordo com as tabelas do clima, ventos de velocidade superior aos 17 m/s ocorrem em menos de 1% do ano.

Podem formar-se ciclones em Maputo, mas os mesmos são muito raros.

4.3.1.2 Nevoeiro

Em Maputo, os solos ao longo dos cais constam de uma camada arenosa primária, depositada sobre arenito. As condições do solo são favoráveis para a construção de cais, o que se pode concluir através do estado dos presentes cais. Não se observam nenhuns abatimentos óbvios das frontarias dos cais, uma indicação das condições favoráveis dos solos.

Considera-se que as condições dos solos sejam semelhantes no cais de carvão da Matola.

Entre o cais de granito de Maputo e as facilidades na Matola desagua um rio muito antigo. O rio erodiu o leito de rocha a uma profundidade de 30-50 m abaixo do nível da água. A cavidade assim criada tem-se enchido de sedimentos, principalmente argila, o que constitui condições desfavoráveis para o estabelecimento de alicerces de cais e outras estruturas. Em projectos de recuperação de terras, pode ser que ocorram grandes abatimentos.

4.3.4 Infra-estrutura

Realizámos em Novembro de 1997 uma inspecção visual geral da infra-estrutura, especialmente das estruturas dos cais e das áreas adjacentes aos cais. Além disso, encontrámos informação sobre a infra-estrutura no relatório do Plano Mestre Portia, de 1991, assim como nos documentos de privatização de Paríbas.

A descrição da infra-estrutura inclui:

- os cais
- as áreas por trás dos cais
- os armazéns
- as estradas na área do porto.

4.3.4.1 Cais

Os cais do Porto de Maputo cobrem uma grande área, de cerca de 3,2 km, da margem norte do Rio Esposito Santo (consultar o **Desenho 01**). Os cais desta área tratam das seguintes cargas:

- Carga geral
- Carga fraccionada
- Cargas secas a granel
- Contentores

As estruturas mais antigas dos cais no porto de Maputo datam da década de 10, e os cais mais modernos foram construídos em 1977. A **Tabela 4.1**, abaixo, apresenta as características principais dos diferentes cais. Alguns dos cais podem ter estruturas de diferentes tipos. A Tabela 4.1 abaixo apresenta a estrutura principal dos cais.