

# Development of Regional Joint Master Program in Maritime Environmental Protection and Management

## - MEP&M -

### Marine Pollution generated by shipping industry: UE legal instruments to reduce and prevent it

#### WP3. Capacity Building through staff training and equipment purchase . Dev. 3.4.1 KNOW-HOW TRANSFER TO TEACHING STAFF RELATED TO THE MEP&M

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30 Jun 2021

#### Virtual meeting via Google-meet application

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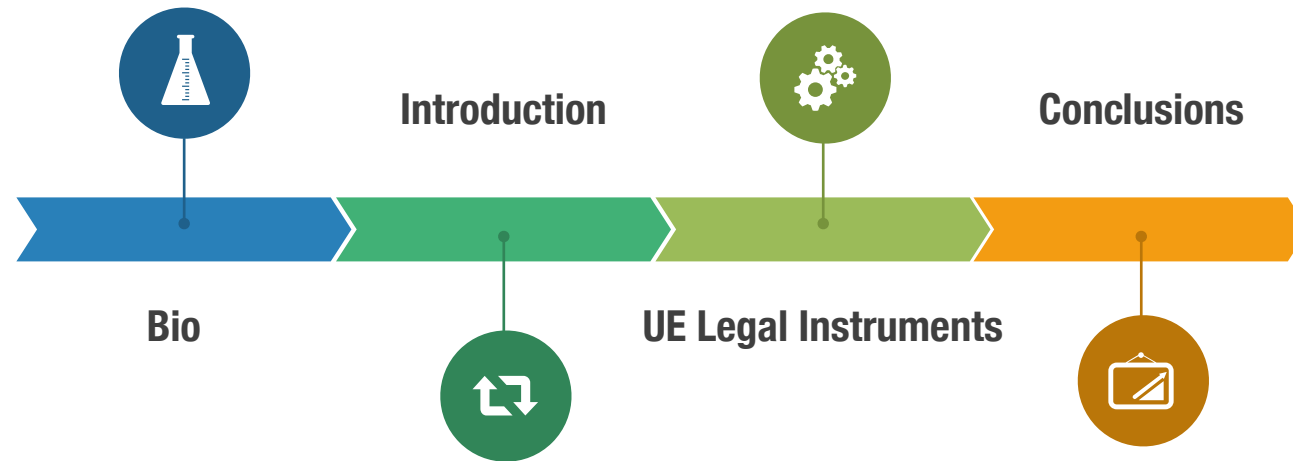
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# Marine Pollution generated by shipping industry: UE legal instruments to reduce and prevent it

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## Agenda





# Who is Emilio?





**Emilio Rodríguez-Díaz**  
Assistant Professor  
Maritime Studies and Naval  
Architecture Department.  
**UNIVERSIDAD DE CÁDIZ**

## About Emilio (1980)

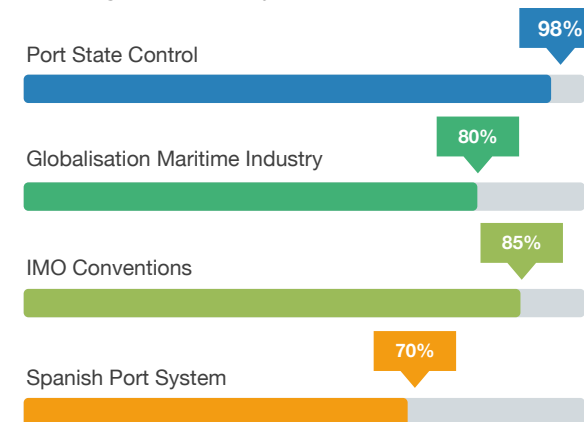
Seaman at Spanish Navy 2000 - 2004  
Bachelor in Maritime Navigation (UCA)  
MSc. in Maritime Economics & Logistics (EUR)  
PhD. in Maritime Policy (UCA)  
Interim Professor 2012 - 2017 (UCA)  
Assistant Professor 2017 - ... (UCA)

## Awards

-  Merit Medal IRAQ 2003
-  Talentia Scholarship Andalusia  
Regional Government 2009

## Academical Skills

Something about me that you should know





## The New Inspection Regime of the Paris MoU on Port State Control: Improvement of the System

E. Rodríguez<sup>1,2</sup> and F. Piniella<sup>1,3</sup>

### ARTICLE INFO

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### ABSTRACT

After the Amoco Cadiz ecological disaster in France, in 1978, the Paris Memorandum of Understanding (PMoU) on Port State Control (PSC) was created. The purpose of this harmonized inspection system is to prevent substandard ships that present high risk from sailing to European and Canadian N. Atlantic ports and anchorages. The existence of many substandard ships is a well-known fact and they sail not only in European waters but all over the world; most of these substandard ships are registered in states that are very permissive in respect of regulations of design, construction, equipment, safety, working conditions, etc. The original objective of the PMoU was for each member country to inspect individually 25% of all the foreign merchant ships which enter its ports (specified MoU Ports) to identify the degree of risk. The original inspection regime of this system is going to be replaced by a New Inspection Regime (NIR), agreed in 2009. With this NIR, the PSC Committee aims to inspect all ships, i.e. the inspections will rise from 25% to 100% of foreign ships entering these ports. This New Inspection Regime would classify the ships according to three categories based on the level of risk associated with the ship revealed by the inspection; once classified, that particular ship would be subjected to more or less frequent inspections. This article will focus on two aspects. The first is how this NIR is going to be implemented; that is, what are the techniques and measures that the PMoU countries are going to bring into operation before 1st January 2011. The second is to contribute to improving this NIR. Any complex new convention and procedures are bound to have mistakes, flaws and weak points, therefore the corresponding documents are to be amended by new annexes shortly to be published.

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### 1. Introduction

#### 1.1. Port State Control

The Paris Memorandum of Understanding (PMoU) on Port State Control (PSC) was created in 1978 and is an administrative agreement between the maritime authorities of twenty-seven European countries and Canada, with the objective of improving the crew living and working conditions, as required by ILO Convention no. 147. (Cfr: Legislative resources in References) (Piniella, 2002 and 2009).

In the light of the increase in maritime transport in recent decades in the developed countries, together with the current rapid increase in large emerging economies like China and India, it is now acknowledged that maritime transport is potentially the most efficient, economical and safe transport method for moving large quantities of bulky goods over long distances. The increase in the world's merchant marine fleet is both a major cause and a major effect of greatly increased

world trade. Not only has the number of ships increased but also the number of sailings per ship per year has increased, as owners try to maximize utilization of vessels of all types, of diverse characteristics and conditions. In this situation, it was widely agreed that the original objective of inspecting 25% of the ships arriving at MoU ports was no longer appropriate. Thus a New Inspection Regime (NIR) for Port State Control has been adopted.

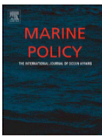
To maintain the operational status of a commercial vessel it must undergo a series of inspections, on board or ashore. These inspections are normally conducted in two phases. The first is based on a review of the certificates that give evidence of the characteristics of all elements of the ship and its crew and equipment. In most cases the date of issue and the duration of validity are checked. The second phase is to verify the status of items and equipment, to ensure that it complies with the information contained in the certificates. This phase gives rise to reports, made on the basis of evidence of the performance and results of the inspection, to justify any corrections considered necessary.

The thoroughness of the inspection will reveal the details and the state in which they find the equipment or structural elements, and should discover anomalies that can lead to ac-

# Research Paper

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## The Panama Ship Registry: 1917–2017



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### ARTICLE INFO

#### Keywords:

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Port State Control  
Re-flagging  
Flagging out

### ABSTRACT

The Panama Ship Registry has its origins in the year 1917. Nowadays, Panama has the largest vessel registry in the world. The second placed registry in the world ranking is Liberia, which does not have even half the number of Panamanian ships. In this Centennial, the aim of this paper is to analyse the evolution of the Panamanian Registry, the structure of the Panamanian-flagged fleet and the level of compliance with international standards in relation to maritime safety and working conditions. To undertake the analysis, two different qualitative and quantitative approaches are compared and integrated for the evaluation of the Panama Ship Registry: the degree of ratification and enforcement of the Conventions and Recommendations of the International Maritime Organization and International Labour Organization, and the results of Panamanian flagged vessels in inspections carried out within the major Port State Control Memoranda of Understanding. This paper fills a research gap by discussing an approach to the concept of flag of convenience and flag State, Panama is more an international registry, whose role is becoming less important from the points of view of safety or working conditions. The fleet performance evolution has been very positive as evidenced by the data presented in this article regarding Port State Control.

### 1. Introduction

Historically, States have attributed their nationality to their "own vessels", those that fly the flag of that State. The so-called flagging of a vessel was an act of endorsement of the authority of that country, and signified that the vessel was under the jurisdiction of the laws of that State. Basically, ship registration is the process through which a ship is granted nationality by a flag state.

However, since the Second World War, the phenomenon known pejoratively as "Flags of Convenience" (FOC) developed [1,2]. This development demonstrated the absence of what the Nottebohm Case of the International Court of Justice (ICJ) [3] referred to in a 1955 judgment as a "genuine link" between a State and its national, person or entity [5–7]. According to this principle, a country cannot extend its laws and protection to its nationals without any kind of limitation. In addition to the formal nationality, a genuine connection must also exist between the State and its national.<sup>1</sup> What constitutes the link between a State and a vessel registered in and flying the flag of that State was set out in the 1958 United Nations Convention on the High Seas [8].

This term as used in Article 91.1 of the United Nations Convention on the Law of the Sea, UNCLOS [9] clearly states that "[T]here must be

a genuine link between the State and the ship". There is no mention of a link between the ship owner's nationality and the ship which is the position taken by some traditional maritime states but is not supported by international law. In that provision, the terms for fixing conditions regarding the right of a ship to fly the national flag is presumably left to individual states. The meaning in law of "genuine link" has been explained to a sufficient extent by UNCLOS Article 94.1 which states - "[E]very State shall effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag". In the same sense, the United Nations Convention on Conditions for the Registration of Ships, UNCCROS [10], which remains becalmed in the list of international agreements awaiting ratification, with only fourteen signatories to date [11].

Many years have passed since the "battle" began to stop this process by which ship owners have increasingly abandoned the traditional maritime flags, known as "flagging out". In recent years, maritime transport has undergone consolidation of so-called open registries. In 2015, open registries accounted for 71.3% of the global fleet, up from 21.6% in 1970. The global fleet continues to maintain a strong separation between the nationality of the ship owner and the flag state of the ship. As of 1 January 2015, Panama had the largest vessel

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<sup>1</sup> We can not fail to mention the Advisory Opinion sought by the IMO in 1960 (then known as IMCO) in the *Constitution of the Maritime Safety Committee of IMCO Case* [4] in which the ICJ basically stated that according to the IMCO Convention the size of the national tonnage was the sole criterion for membership of that Committee and the nationalities of beneficial owners of ships was not contextually relevant.

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# Research Paper



## Maritime Transport Safety Control: Its Effectiveness Following Privatization in the Post-Globalization Era

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### ABSTRACT

A detailed statistical analysis of the world fleet and its performance in respect of safety has been made, to study the evolution that has taken place in recent decades in the privatization or externalization of the control services. These services refer principally to the inspection and monitoring of ships performed by the Maritime Administrations of States either directly themselves or indirectly via the Classification Societies or Recognized Organizations (ROs).

On this analysis, the discussion is not controversial. The general performance of the fleet has been getting better in both aspects and a scenario of concentration in the number of important registries is drawn; those registries that have not adapted to the standards established internationally by the International Maritime Organization (IMO) are not competitive. States and Governments will have the public mission of “controlling the private controllers”, supervising the compliance of those ROs with ethical standards, so that the new IMO Code will be the final element.

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### 1. Introduction

Our Research Group has studied for years, the impact of Globalization on maritime structures, especially the impact on maritime safety and pollution prevention. Previous studies have been conducted on the recruitment practices and the new role of the Classification Societies (Silos et al., 2012, 2013). In this paper we analyse statistically the world fleet and its performance in respect of safety, to study the evolution that has taken place in recent decades in the privatization or externalization of the control services. These services refer principally to the inspection and monitoring of ships performed by the Maritime Administrations of States either directly themselves or indirectly via the Classification Societies or Recognized Organizations (ROs).

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This paper is organized as follows: we will address the concept of (post)-globalization, the methodological aspects and a review of the state of the art; then we present the statistical analysis, the legal framework of the ROs and finally present the conclusions centred in the added value of our study.

If the intention is to be precise, it is no longer correct to speak of a process of globalization of the structures of maritime transport, since this process now seems to have been already consolidated (Alderton and Winchester, 2002a; Egyan, 1988, 1990; Kovats, 2006; Metaxas, 1981; Silos et al., 2012). It is perhaps more correct to take it as a fact that the world economy is now in another more advanced stage - one that many authors have defined as Post-Globalization (Nayak, 2013; O'Connor, 2009; Masih, 2002). In this era of neo-globalization, what must now be done is to analyse the errors committed, and to regulate those aspects that evidently require better control, principally the control of maritime safety.

There is no doubt that the phenomenon of privatization of the maritime safety control has developed in parallel with that of the now-consolidated Open Registries; and the situation that exists presents a challenge to the Coastal States to ensure the quality of the inspections and controls which these organisa-

# Research Paper



# Maritime Transport

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# Marine Pollution generated by shipping industry: UE legal instruments to reduce and prevent it











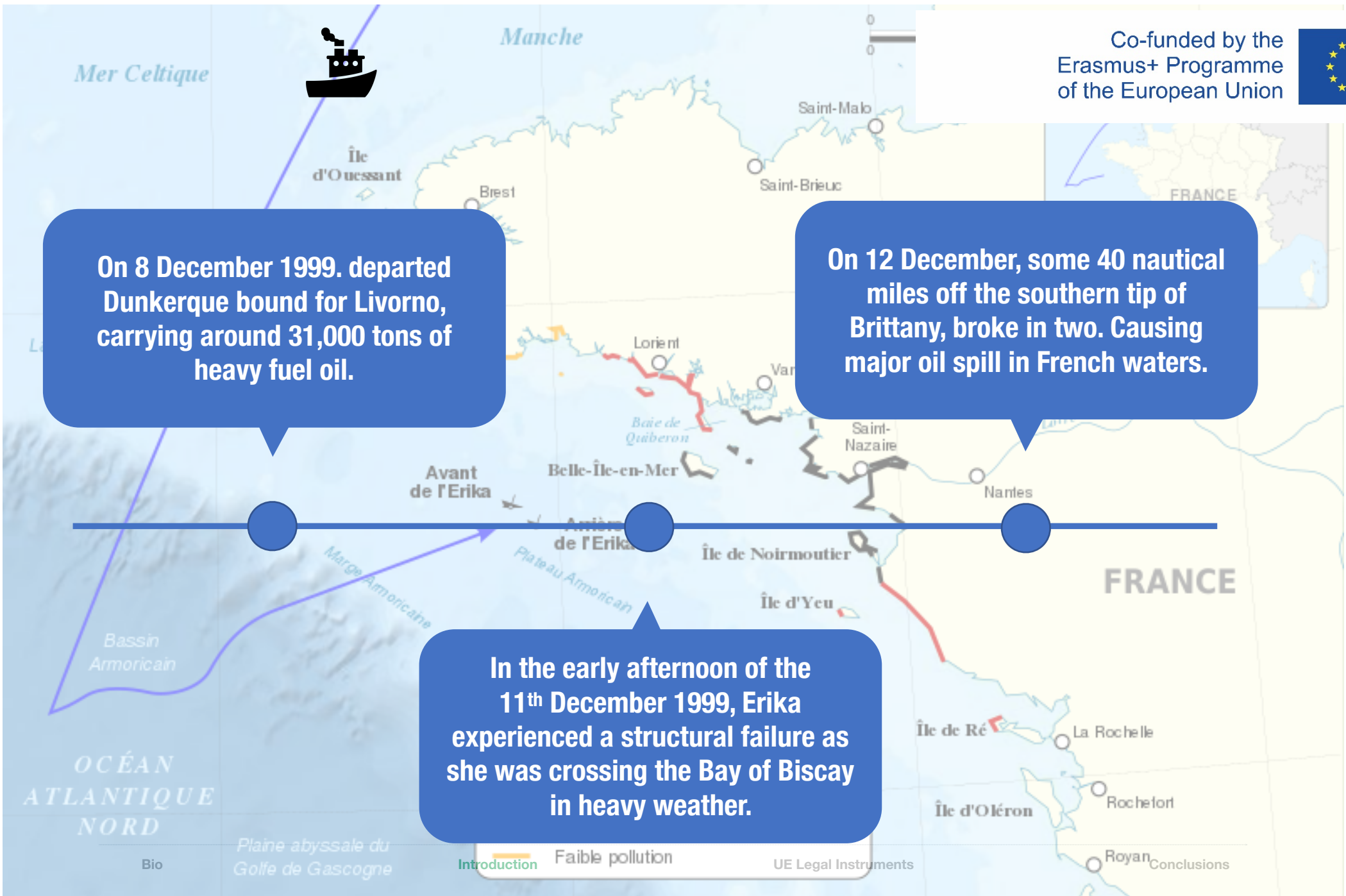


## ERIKA General information – Characteristics

The ship was built in Japan in 1975 at the Kudamatsu shipyard of the Kasado Dock Co. Ltd. Originally designed as a products/crude carrier, she had 13 cargo tanks with two sets of cargo lines and two slop tanks. The main characteristics of the vessel were as follows :

- Length overall: 184.03 m
- Length between perpendiculars: 174.00 m
- Moulded breadth: 28.05 m
- Summer draught : 11.02 m
- Depth: 14.99 m
- Summer deadweight: 37,283 t
- Winter deadweight: 36,285 t
- Speed during trials: 16.4 kts
- Service speed: 15.2 kts





**On 8 December 1999, departed Dunkerque bound for Livorno, carrying around 31,000 tons of heavy fuel oil.**

**On 12 December, some 40 nautical miles off the southern tip of Brittany, broke in two. Causing major oil spill in French waters.**

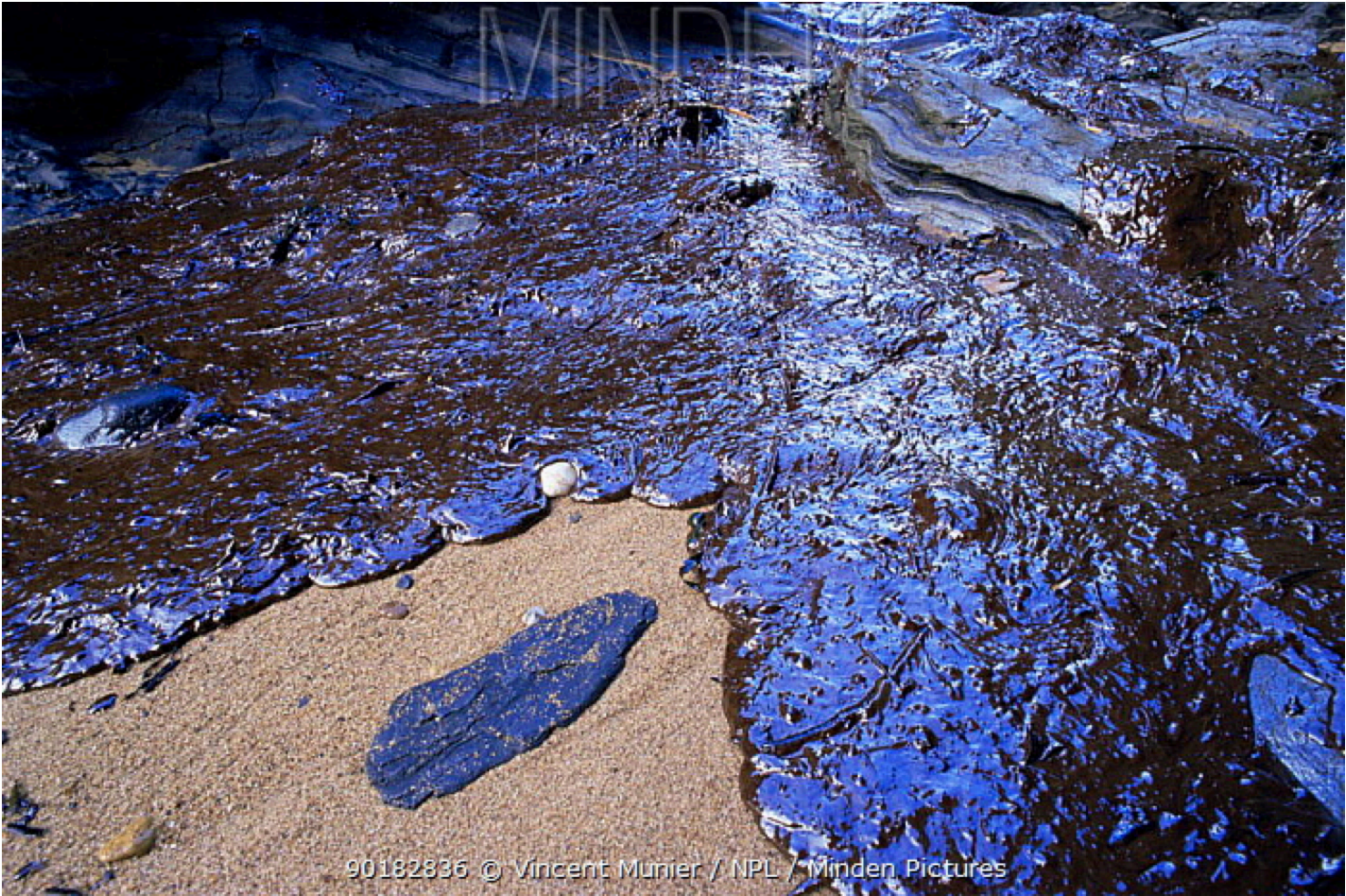
**In the early afternoon of the 11<sup>th</sup> December 1999, Erika experienced a structural failure as she was crossing the Bay of Biscay in heavy weather.**



Océan Atlantique Nord

Plaine abyssale du Golfe de Gascogne













“It was very difficult to contain this pollution because of the type of cargo being carried and because of the severe weather conditions and it eventually soiled several hundred kilometers of coastline from Brittany down to the Ile de Ré”

...according to the official report of Permanent Commission of enquiry into accidents at sea (CPEM).

\*CPEM: Permanent Commission of enquiry into accidents at sea of the French Administration





## ***Did you know?***

- Less than 3% of the total spill volume was collected during the response operations at sea.
- Due to the long time that the oil spent at sea, much of it formed a water-in-oil emulsion, which significantly increased its volume and viscosity.
- The French Court assessed the total damages for civil parties at the amount of €192.8 million.
- Apart from the fines imposed and cleanup costs, the owner made voluntary payments to the majority of the civil parties, including the French Government, for a total of €171.3 million.
- Ironically, France has been again a major victim of oil and gas industry in 1978, when the Liberian-flagged VLCC Amoco Cadiz, transporting crude oil, ran aground in March 1978 off the coast of Brittany, resulting in the largest oil spill of its kind in history to that date.



# MAIN CAUSE:



# MAIN CAUSE: CORROSION



**MAIN CAUSE: CORROSION**

**LACK OF MAINTENANCE**





## Prior PSC inspections (Paris memorandum):

- on 17/04/96 at Milazzo (Italy) : a deficiency with the lifeboats ;
- on 05/07/96 in Gdynia (Poland) : vessel detained for several deficiencies, mostly in the engine room due to the fact that it was poorly maintained at that time ;
- on 22/08/96 in Punta Delgada (Portugal) : engine deficiencies some of which were recurrent, deficiency of winches and windlass ;
- on 16/01/97 in New Orleans : deficiencies mainly concerning the fire fighting system ;
- on 11/12/97 in Rotterdam : vessel detained because of several deficiencies including corrosion of a bulkhead in the accommodation. The vessel's classification society (BV) were informed for repairs. The vessel was detained for 24 hours ;



## What is PSC?



# What is PSC? Port State Control



# What is PSC? Port State Control





## What is PSC? Port State Control

*“Port State Control (PSC) is the inspection of foreign ships in national ports to verify that the condition of the ship and its equipment comply with the requirements of international regulations and that the ship is manned and operated in compliance with these rules.”*

\*International Maritime Organization definition



## What is PSC? Port State Control

Port State Control (PSC) provides a "safety net" to catch substandard ships.





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## What is PSC? Port State Control

Port State Control (PSC) provides a "safety net" to catch **substandard ships.**



## What is a substandard ship?





## What is a substandard ship?

*“A ship whose hull, machinery, equipment or operational safety is substantially below the standard required by the relevant convention or whose crew is not in conformance with the safe manning document.”* IMO resolution A. 1052 (27)



## **Prior PSC inspections (Paris memorandum):**

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## **Prior PSC inspections (Paris memorandum):**

- on 20/05/98 in Stavanger (Norway) : numerous deficiencies (11) including three for the fire fighting equipment and electrical installations, one deficiency mentioned hull corrosion (this did not give rise to the vessel's being detained). The target factor 1 here would have been 40 ;
- on 08/05/99 in Porto-Torres (Sardinia) : although this inspection was described as « extended » it only concerned the vessel's certificates and thus no deficiencies were reported. The upshot of this was to cancel the inspection priority which the Norwegian authorities had requested and to reduce the target factor ;
- on 12/11/99 in Novorossiysk (Russia) : four deficiencies concerning unpainted freeboard marks, immersion suits, lifebuoys and firemen's outfits.





## CPEM Conclusions:

- the vessel was inspected every year (at least once) under Port state control ;
- she was detained twice, once for corrosion ;
- corrosion was observed twice (hull and accommodation bulkhead) – no details were given ;
- the final inspection, just one month before she sank, was limited to an examination of the ships papers and equipment.

\*CPEM: Permanent Commission of enquiry into accidents at sea of the French Administration



## Consequences CPEM report on the EU:

- Failure of the Paris MoU on PSC
- Public opinion pressure
- European Commission proposed actions at community level:
  - i. Modify the prevailing mentality in the maritime oil trade, in order to persuade shipping companies, charterers, and classification societies.
  - ii. Tighten the conditions for those players in maritime trade willing to make short-term gains at the expense of safety.
  - iii. European Commission presented a series of proposals (COM/2000/142-final), to increase the maritime transport safety of petroleum products. The packages of these measures are known as Erika I, II and III.





## THE SEABORNE PETROLEUM PRODUCTS TRADE: STATE OF PLAY I

- **EU occupies the number one position in the petroleum products trade**

EU crude oil imports represent 27% of total world trade

- **Close to 90% of the oil trade with the EU relies on sea transport**

Forecast levels of demand for petroleum products, say that the oil tankers is expected to grow and grow over the years to come

- **800M tonnes are transported to or from Community ports.**

About 70% of oil tanker movements in the Union are along the Atlantic and North Sea coasts.

- **Many oil tankers cross the waters of the Union without calling EU ports.**

This represent and additional volume of traffic, and hence and additional danger.



## THE SEABORNE PETROLEUM PRODUCTS TRADE: STATE OF PLAY II

- **High tonnage vessels**

Over 200,000 tonnes.

- **In 1999 the average age was 18 years.**

With 41% of them more than 20 years.

- **In the EU the average age of registered oil tankers in 1999 was 19.1 years.**

Over 45% of the European fleet is more than 20 years old.

- **European companies frequently register their vessels under foreign flags.**

Liberia, Panama, Bahamas, Cyprus, Malta and The Bahamas





## THE SEABORNE PETROLEUM PRODUCTS TRADE: STATE OF PLAY III

- **From 1992 to 1999. 593 ships lost worldwide of which 77 were oil tankers (13%)**

31% of the lost tonnage

- **The main causes of accidents at sea:**

- Human error
- Age of vessels
- Chartering practices
- Highly competitive atmosphere



## THE SEABORNE PETROLEUM PRODUCTS TRADE: STATE OF PLAY III

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## THE SEABORNE PETROLEUM PRODUCTS TRADE: STATE OF PLAY IV

- **International Maritime Organization (IMO)**

International MARPOL Convention for the Prevention of Pollution from ships (1973)

- **Double hull vessels since 1966 Chartering practices**

Double hull reduce considerably the risk of pollution

- **On 2000 double hull vessels accounted for about 20% of the worlds oil tanker fleet.**

IMO falls short to tackle the causes of such pollution disasters

- **IMO regulations are not applied everywhere with the same rigour.**

Flags of convenience (registration of vessels in foreign countries)



## ERIKA I:

- **Port state control**

Directive 95/21/EC to control the entry of ships into EU ports.

- **Classification societies**

Directive 2001/105/EC, more strictly monitors the classification societies that inspect ship quality on behalf of EU member states.

- **Double-hull oil tankers**

Regulation (EC) No. 417/2002, accelerated phasing-in of double hull or equivalent design requirements for single hull oil tankers



## ERIKA II:

- **Maritime traffic monitoring and control**

Directive 2002/59/EC established a maritime-vessel monitoring, control, and information system.

- **COPE Fund**

A proposed regulation would set up the **COPE Fund**, a compensation fund for victims of oil spills in European waters.

- **European Maritime Safety Agency**

Regulation (EC) No 1406/2002 created the European Maritime Safety Agency.









## **ERIKA III:**

- **The quality of European flags**
- **Amendment of the Directive on classification societies**
- **Amendment of the Port State Control Directive**
- **An amendment of the Traffic Monitoring Directive**
- **Accident Investigations**
- **Liability and compensation for damage of passengers in the event of maritime accidents**
- **Extra-contractual liability of shipowners**



## CONCLUSIONS

- **UE leadership in Sustainable Development going beyond International Obligations**

Development of its Integrated Maritime Policy and through specific Directives.

- **UE strong influence and the ability to change policy externally with non-EU actors.**

EU as maritime region and the importance as a market for goods from countries such as China, India and the US. Measures taken by the EU can have a global impact (China, India and US)

- **EU directly influenced the timetable for bringing in those same standards internationally.**

Accelerated international timetable in order to have a direct and positive influence in international conventions.

- **EU is a global leader in the protection of the marine environment.**

# ¡GRACIAS! Thank you Faleminderit Hvala.

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