ECOPORT
Autoridad Portuaria de Valencia

valenciaport
Autoridad Portuaria de Valencia

Green Ports, Green Shipping
European Parliament,
Brussels, **Wednesday 27 June**

Environmental Excellence

Rafael Company
Project Manager
Port of Valencia

ECOPORTS
PERS CERTIFIED

EMAS
VERIFIED ENVIRONMENTAL MANAGEMENT

ECOPORT
Autoridad Portuaria de Valencia

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PORT OF VALENCIA: short introduction

In Spain, 59% of all exports and 82% of imports are transported by sea. This represents 53% of Spanish foreign trade with the European Union and 96% of Spanish foreign trade with other countries.

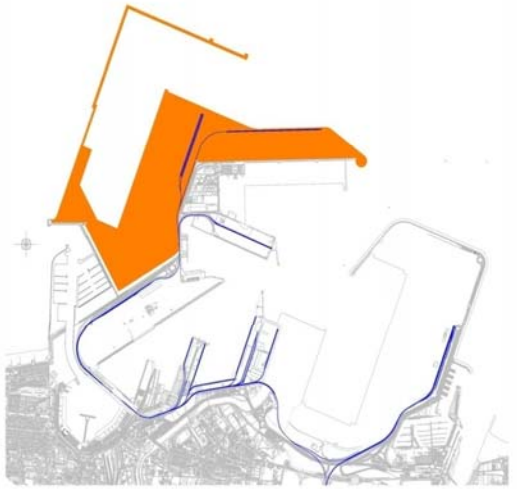
Port Authority of Valencia manages 3 ports: Sagunto, Valencia and Sagunto

- ❑Valencia Port Authority.....400 workers
- ❑Total cargo traffic ..... 63.741.327 Tons
- ❑Container traffic..... 49.029.766 Tons
- ❑Total TEUS ..... 4.206.937 TEUS

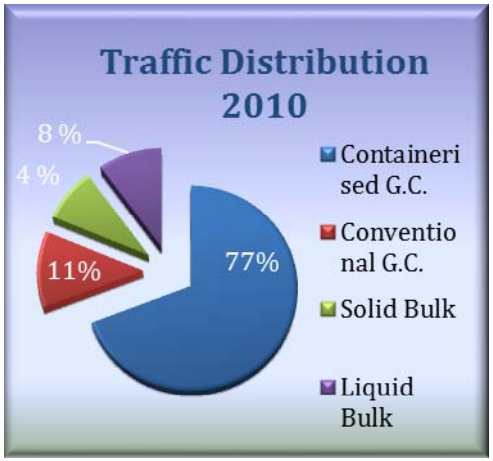
(reference data2010)

✓Total surface area of the Valencia Port 4.699.742 m^2 (port in enlargement construction process)

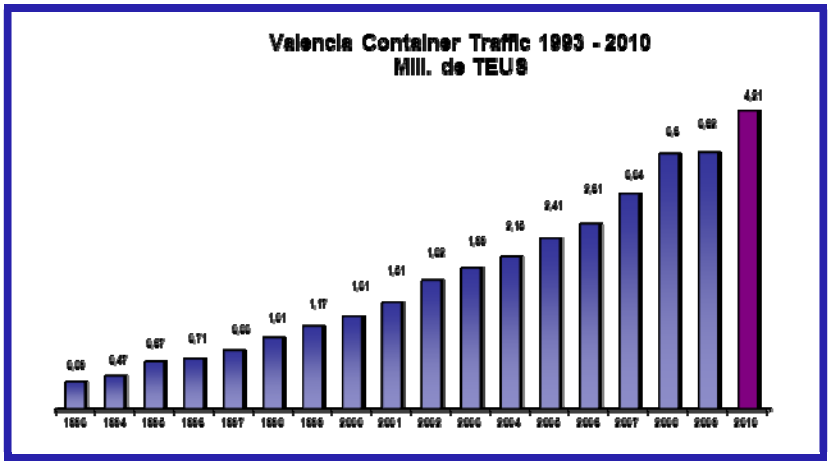
- ➢2.364.831 m^2 by warehousing
- ➢778.074 m^2 used for roads.

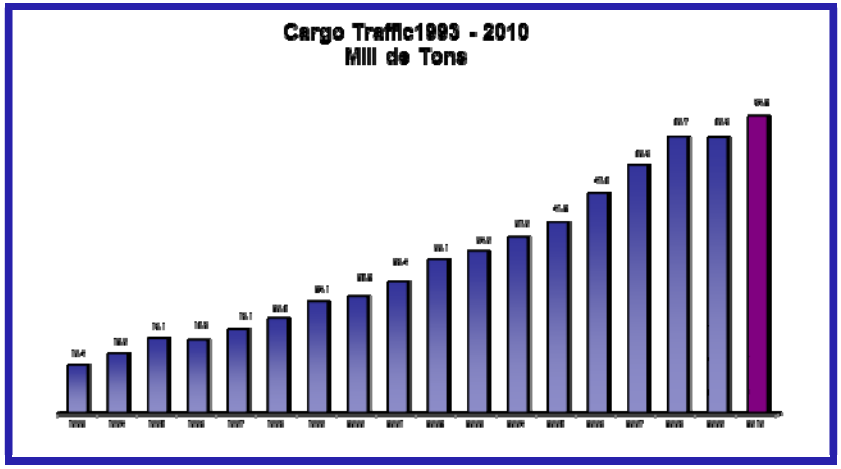


PORT OF VALENCIA: big figures



Container, the leading actor!





PORT	2010 Thousands of Tons	2009 Thousands of Tons	VAR. (%)
Gandía	262 (0,4%)	252	6.20 %
Sagunto	6.868(10,7%)	6.843	0.36 %
~~Valencia~~	~~56.893 (88,9%)~~	~~50.689~~	~~12.24 %~~
TOTAL	**64.028**	**57.784**	**10.81 %**

SELF-REGULATION

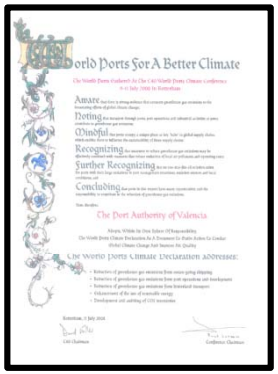
- ESPO Guidelines: Code of Practice, Environmental Review, ECOPORTS, GREENGUIDE

ESPO GREEN GUIDE

Towards excellence in port environmental management and sustainability

- AIVP – IACP – Sydney Declaration

- C40 - World Ports Climate Declaration



- ECOPORT I & II Valencia initiative since 1998

ENVIRONMENTAL EXCELLENCE CYCLE

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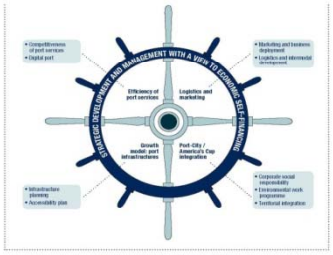
General Interest
Stakeholders
Environmental concern
Legislation



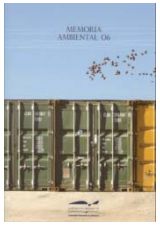
The Strategy

Strategy Deployment
Business objectives
Clients
Tenants

Port Authority of Valencia

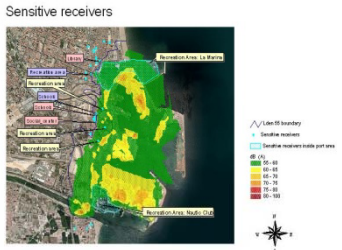
The Policy

The Feed-back



Benefits of
Environmental
Integration
Sustainability of
activities

Reporting
Awareness
Certfication



The Tools

Environmental Aspects
Technology
Best Practices
EMS

ECOPORTS
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EMAS
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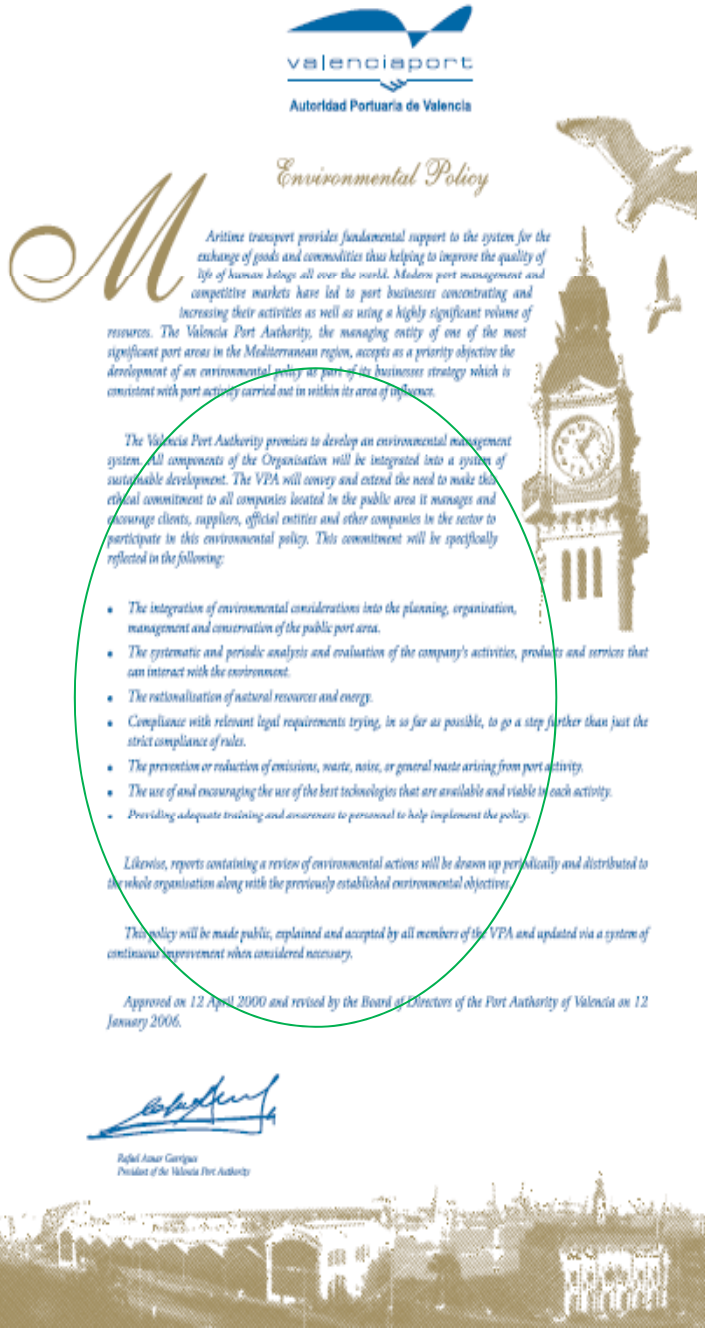
ENVIRONMENTAL
MANAGEMENT

ENVIRONMENTAL POLICY



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Environmental Policy

Maritime transport provides fundamental support to the system for the exchange of goods and commodities thus helping to improve the quality of life of human beings all over the world. Modern port management and competitive markets have led to port businesses concentrating and increasing their activities as well as using a highly significant volume of resources. The Valencia Port Authority, the managing entity of one of the most significant port areas in the Mediterranean region, accepts as a priority objective the development of an environmental policy as part of its businesses strategy which is consistent with port activity carried out in within its area of influence.

The Valencia Port Authority promises to develop an environmental management system. All components of the Organisation will be integrated into a system of sustainable development. The VPA will convey and extend the need to make this ethical commitment to all companies located in the public area it manages and encourage clients, suppliers, official entities and other companies in the sector to participate in this environmental policy. This commitment will be specifically reflected in the following:

- *The integration of environmental considerations into the planning, organisation, management and conservation of the public port area.*
- *The systematic and periodic analysis and evaluation of the company's activities, products and services that can interact with the environment.*
- *The rationalisation of natural resources and energy.*
- *Compliance with relevant legal requirements trying, in so far as possible, to go a step further than just the strict compliance of rules.*
- *The prevention or reduction of emissions, waste, noise, or general waste arising from port activity.*
- *The use of and encouraging the use of the best technologies that are available and viable in each activity.*
- *Providing adequate training and awareness to personnel to help implement the policy.*

Likewise, reports containing a review of environmental actions will be drawn up periodically and distributed to the whole organisation along with the previously established environmental objectives.

This policy will be made public, explained and accepted by all members of the VPA and updated via a system of continuous improvement when considered necessary.

Approved on 12 April 2000 and revised by the Board of Directors of the Port Authority of Valencia on 12 January 2006.

Rafael Aznar Garrigues
President of the Valencia Port Authority

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- The integration of environmental considerations into the planning, organisation, management and conservation of the public port area.

POLICY ACTION LINES

n	Policy Lines	Valencia good pract
1	Environmental Management Development	• ECOPORT I and II
2	The Integration Of Environmental Considerations Into The Planning, Organization, Management And Conservation Of The Public Area	• Environmental Integration of Port Expansion
3	The Systematic And Periodic Analysis And Evaluation Of The Company's Activities, Products And Services That Can Interact With The Environment	• Environmental Characterization Network Monitoring • Carbon Footprint Calculation
4	The Rationalization Of Natural Resources Energy	• Energy Efficiency System (ISO 50001) • EFICONT
5	Compliance With Relevant Legal Requirements Trying, In So Far As Possible, To Go A Step Further Than Just The Strict Compliance Of Rules	• ECOPORT-LEX
6	The Prevention Or Reduction Of Emissions, Waste, Noise, Or General Waste Arising From Port Activity	• Emergency Control Center
7	The Use And Encouraging The Use Of The Best Technologies That Are Available And Viable In Each Activity	• Cooperation European Projects
8	Providing Adequate Training And Awareness To Personnel To Help Implement The Policy	• ECOLOGISTYCPORT

A GOOD PRACTICE with 5ES.
CASE OF STUDY: ECOPORT II

Short Description:

Implementing environmental management systems standards in port facilities" provides access to the implementation of an Environmental Management System in a simple and low cost to the companies working within all the port facilities. The beneficiaries of this project are the companies participating in the project as well as the whole port community.

To improve the environmental management of companies within the port community. These improvements are based on Environmental Management Systems that facilitate the implementation of ISO 14001 within a period of 5 years.

Background:

The Port Authority of Valencia bets strongly for an environmental strategy in the medium and long term, fixing in his strategic plan already established inside a line of work, a project called " Integration Port and City " that gives response to is strategic line that is named Environmental Initiatives.

To give response to the strategic plan and inside the business plan " To assure the respect to the environment ", there have been established diverse operative environmental aims between which one finds action lines " Development of the SGMA ECOPORT across the European project ECOPORTS 2002-2005 "

To comply with the commitments, there is contemplated the accomplishment of two actions:

- ✓ To transfer and to improve the guide of Environmental Management Systems Guide Implantation developed by the APV from the comments of diverse ports pilots (ex. ECOPORTS)
- ✓ To develop the initiatives of environmental management applied to the Port Community (ECOPORT II)

Aims:

❑ ECOPORT I

- ✓ The validated guide for the system implantation of Environmental Management in Facilities and Port Communities which has been studied and checked in diverse pilot ports, already realized in the project ECOPORT.
- ✓ The accomplishment of the Framework System studied and reviewed in diverse pilot ports already initiated in the project ECOPORT and as consequence ECOPORT + 5 (5 levels of implementation) has developed for the port of Valencia.

❑ ECOPORT II:

- ✓ The implantation of ISO 14001 or EMAS in the majority of the companies of Sagunto's Ports, Valencia and Gandía, as well as to study the possibility of implanting the Framework System of Environmental Management based on the project ECOPORT in the port area involving of Sagunto's Ports, Valencia and Gandía.

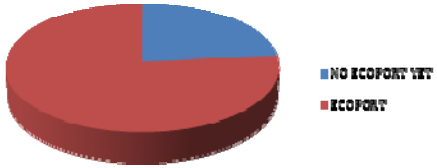
A GOOD PRACTICE with 5ES.
CASE OF STUDY: ECOPORT II

The 5Es framework for responsible action:

1. Exemplifying; Setting a good example towards the wider port community by demonstrating excellence in managing the environmental performance of their own operations, equipment and assets

Port Community with 55 of Port Tenants

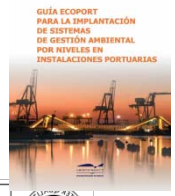
- Involved within **Ecoport** II: **42**
- Port tenants with Evironmental Certifications:
  - **24** certified by ISO 14001:2004
  - **5** certified by EMAS
- Port Tenants working in the implementation of the environmental certifications **13**



2. Enabling; Providing the operational and infrastructural conditions within the port area that facilitate port users and enable improved environmental performance within the port area

1. Infraestructures: The existence of a Waste Transfer Center (CTR), where wastes generated in the port are managed and segregated before delivery to an authorized treatment facility

2. Operational Procedures: Handbook and Guidelines to facilitate improved environmental performance



EMS implementation

Energy Efficiency Management

Carbonfootprint caluclation

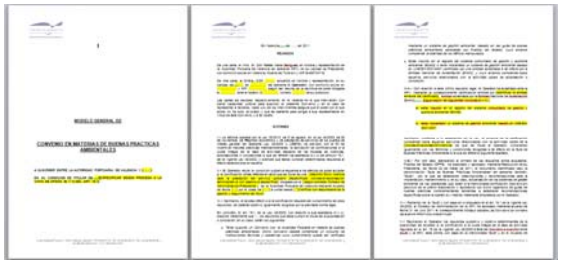
A GOOD PRACTICE with 5ES.
CASE OF STUDY: ECOPORT II

3. Encouraging;

Providing incentives to port users that encourage a change of behaviour and induce them to continuously improve their environmental performance

Incentives: (examples)

- ✓ Low cost in waste management
- ✓ Environmental Auditing
- ✓ Training sessions



4. Engaging with port users and/or competent authorities in sharing knowledge, means and skills towards joint projects targeting environmental improvement in the port area and the logistic chain

Environmental Steering Committe – Working Group

↓

Environmental Common objetives

TECHNICAL GROUP- ENVIRONMENTAL COMMITTEE

PORT TENANT	RESPONSIBLE
AMARRADORES	PAU SARRO
BUNGE IBERICA,S.A.	MARGARITA SELMA
REMOLCADORES BOLUDA, S.A.	MANUEL HERNANDEZ Y CARLOS RODRIGUEZ
SEROIL VALENCIA, S.L.	JOSE GRANER
TERMINAL MARÍTIMA DE GRANELES, S.L.	EVA GARCIA
URBAMAR LEVANTE UTE	RICARDO PALOMINO/JUAN ANTONIO CUEVAS
VALENCIA TERMINAL EUROPA	LUIS SAHUQUILLO

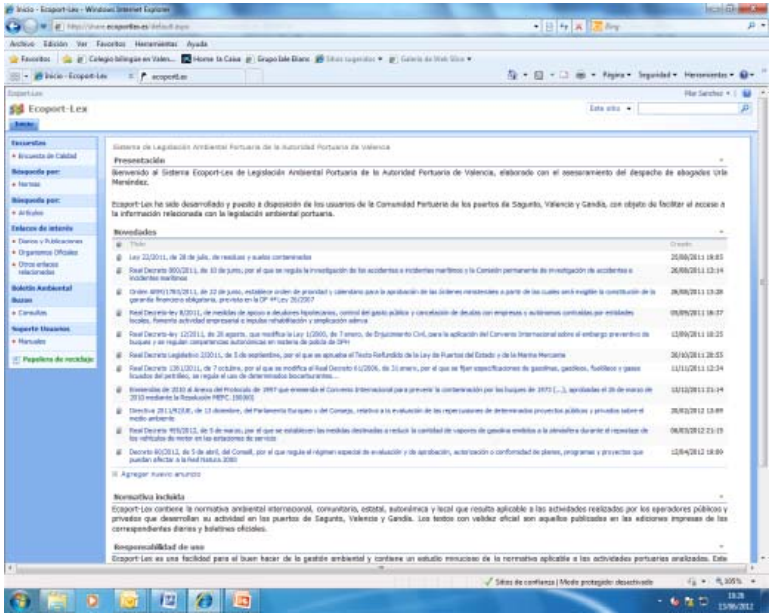
A GOOD PRACTICE with 5ES.
CASE OF STUDY: ECOPORT II

5. Enforcing;

Making use of mechanisms that enforce good environmental behaviour by port users where applicable and ensuring legal compliance

ECOPORT – LEX WEB SITE

http://ecoport.infoportvalencia.es



Project Name: ENVIRONMENTAL CHARACTERIZATION NETWORK MONITORING

Country: Spain	**Location within Country:** Valencia
Initiator: Valenciaport (Valencia Port Authority)	**Start and Completion Date (month / year)** On going project
Key words: MONITORING, AIR, WATER QUALITY, DREDGING, NOISE	**Website / Report / etc:** www.valenciaport.com

Description project / initiative:

The Port Authority of Valencia has a network of instruments for the characterization of environmental issues. Through a real time monitoring system, it is able to evaluate the impact on port activities of issues such as noise, air quality or water quality. This network includes sound level meters, particle sensors, ozone meters, weather stations and also a instrumental buoy for the characterization of water quality at the port. These measuring instruments are monitored through a SCADA system that allows knowing in real time the evolution of the different environmental aspects considered.

Cabins used to locate the land based measurement equipments

Buoy used to gather the water parameters.

Specification of Sustainable activities and outcome (incl. goal):
The aim of this system is to be able to take preventive and corrective actions according to the results obtained after measuring

Relevance to report:
This system allows to monitor the following environmental issues considering in this report to play a relevant role in ports:

- Air
- Surface Water and Sediment
- Dredging
- Noise

Feedback initiator (if any):
Noise monitoring started with EU funded SIMPYC and NOMEPORTS projects both under Life Programme in 2007-2008.
Air quality monitoring started in 2005 with the completion of EU funded project HADA (Environmental Diagnostic Automatic Tool) under the Life Programme

Lessons learned for future projects
This system has proved to be helpful on the control of noise levels produced by the port activities. If permissible levels have been exceeded, it could be used for the control of the efficiency of corrective measures implemented. In addition, knowing the data provided by weather stations it has been possible to reduce emissions, for example, on the handling of bulk cargoes.
Future challenges are to integrate all this information into a program that simulates the spread of both particles in the air and water discharges in order to combat its effects more efficiently.

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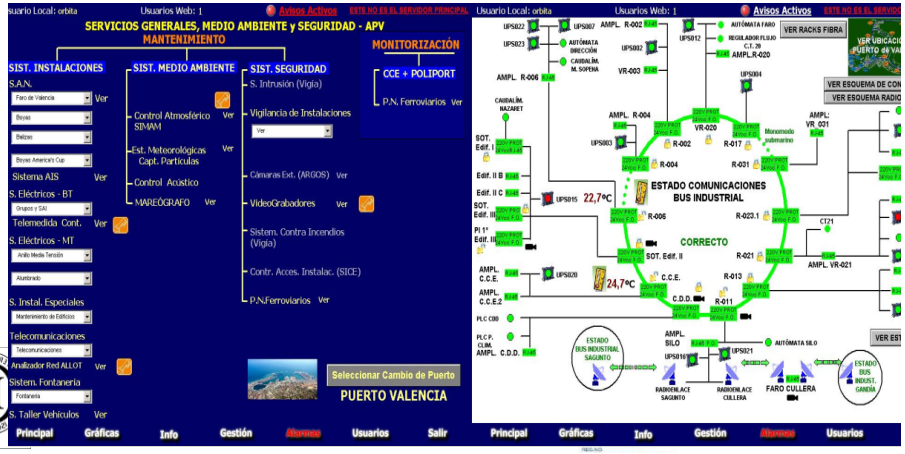
OTHER VALENCIA BEST PRACTICES

Common approach in tackling environmental priorities

❑ **Environmental Network Monitoring**;

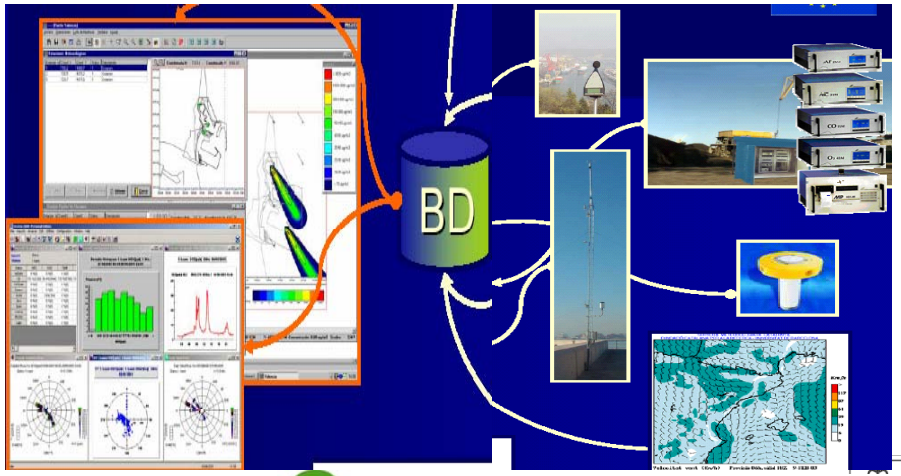
1. Air qualtiy
2. Water quality
3. Noise quality



Air quality control network

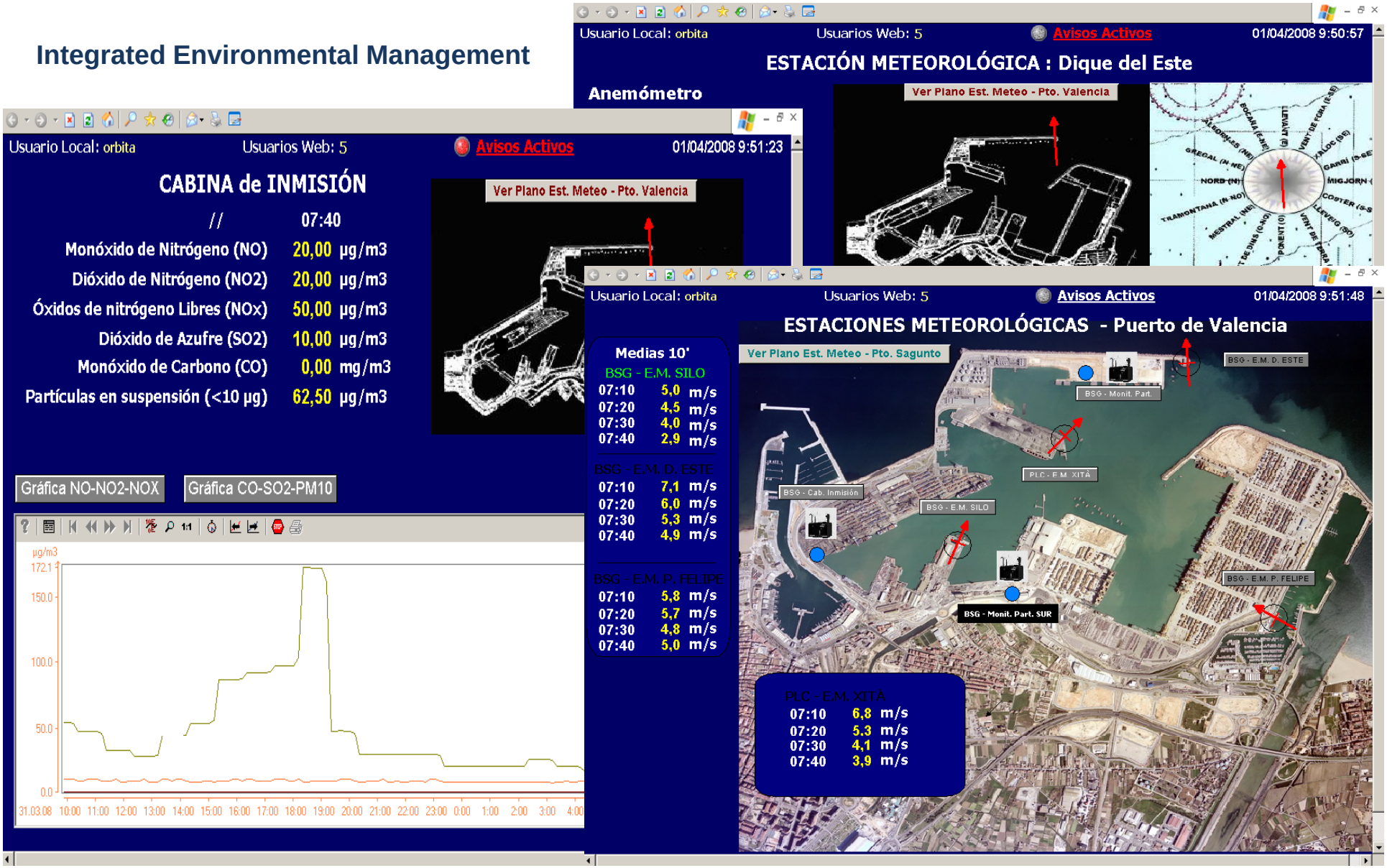
Meteorological Instrumentation Plan:

Involves and implementing and monitoring a Network of Meteorological stations and Particle counters in order to determine the quality of air in real time → monitors and controls different parameters which affect the quality of the environment: NO, NO2, NOx, SO2 and CO gases, as well as PM10 particle.



Air quality control network

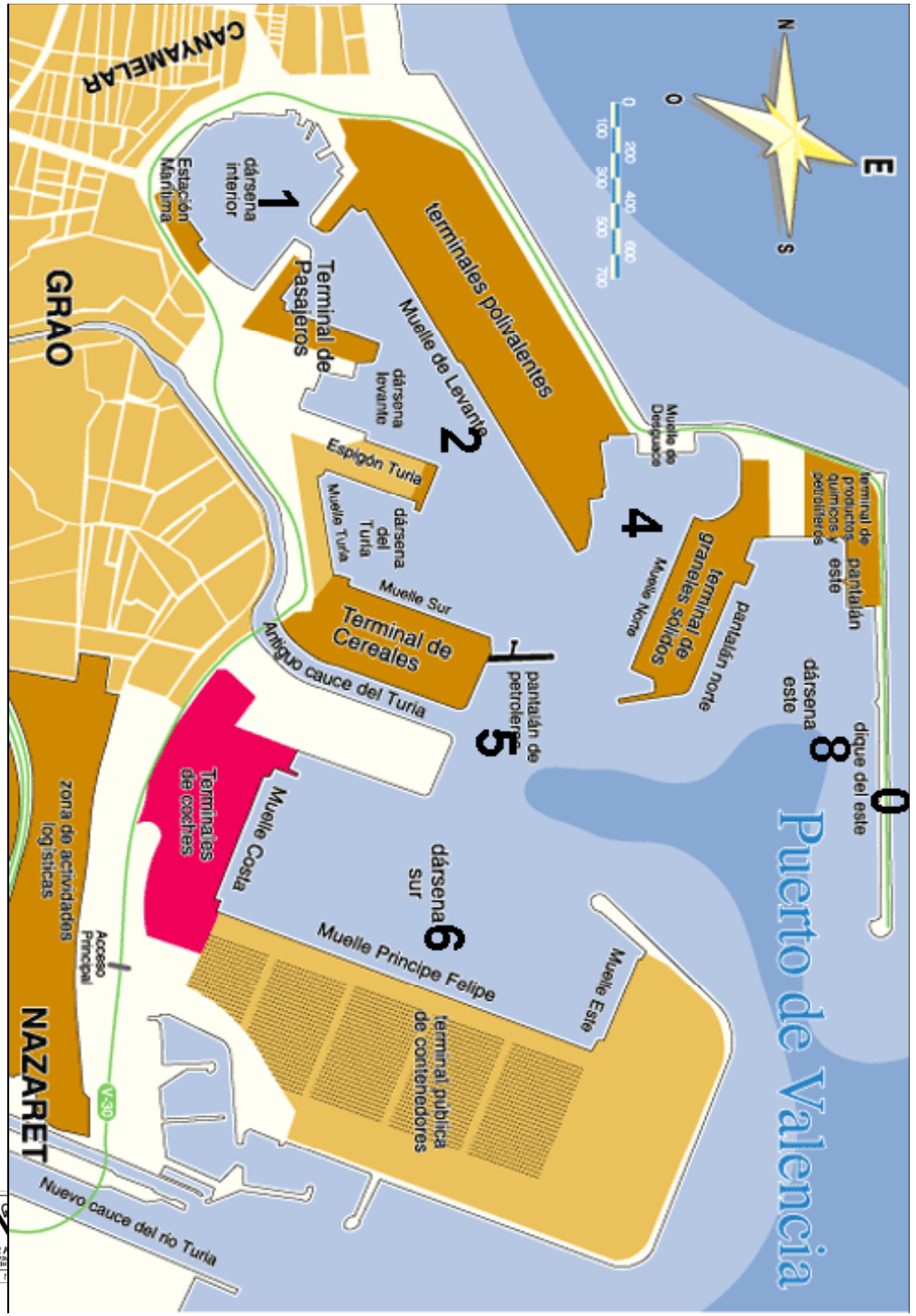
Integrated Environmental Management



Water Quality Control (RECA)

- Periodic analysis of sheltered waters allows water quality to be ascertained and the early detection of possible pollution episodes

→ carry out studies in order to determine the evolution of water quality in the different port docks. These studies include monitoring hydrology, microbiology, plankton and benthic communities inside the port area over a yearly cycle.



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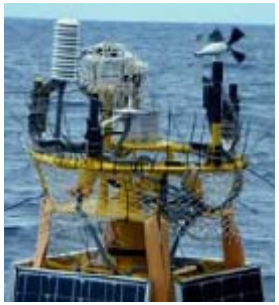
Water Quality Control Network

– To define and to establish a network by sensors in order to know the evolution of water quality in the different port quays.

Parameters:

- ✓**Water temperature**
- ✓**Chlorophyll**
- ✓**O2**
- ✓**Hydrocarbons**
- ✓**Turbidity**
- ✓**Salinity**
- ✓**Direction e wave intensity**
- ✓**Others**



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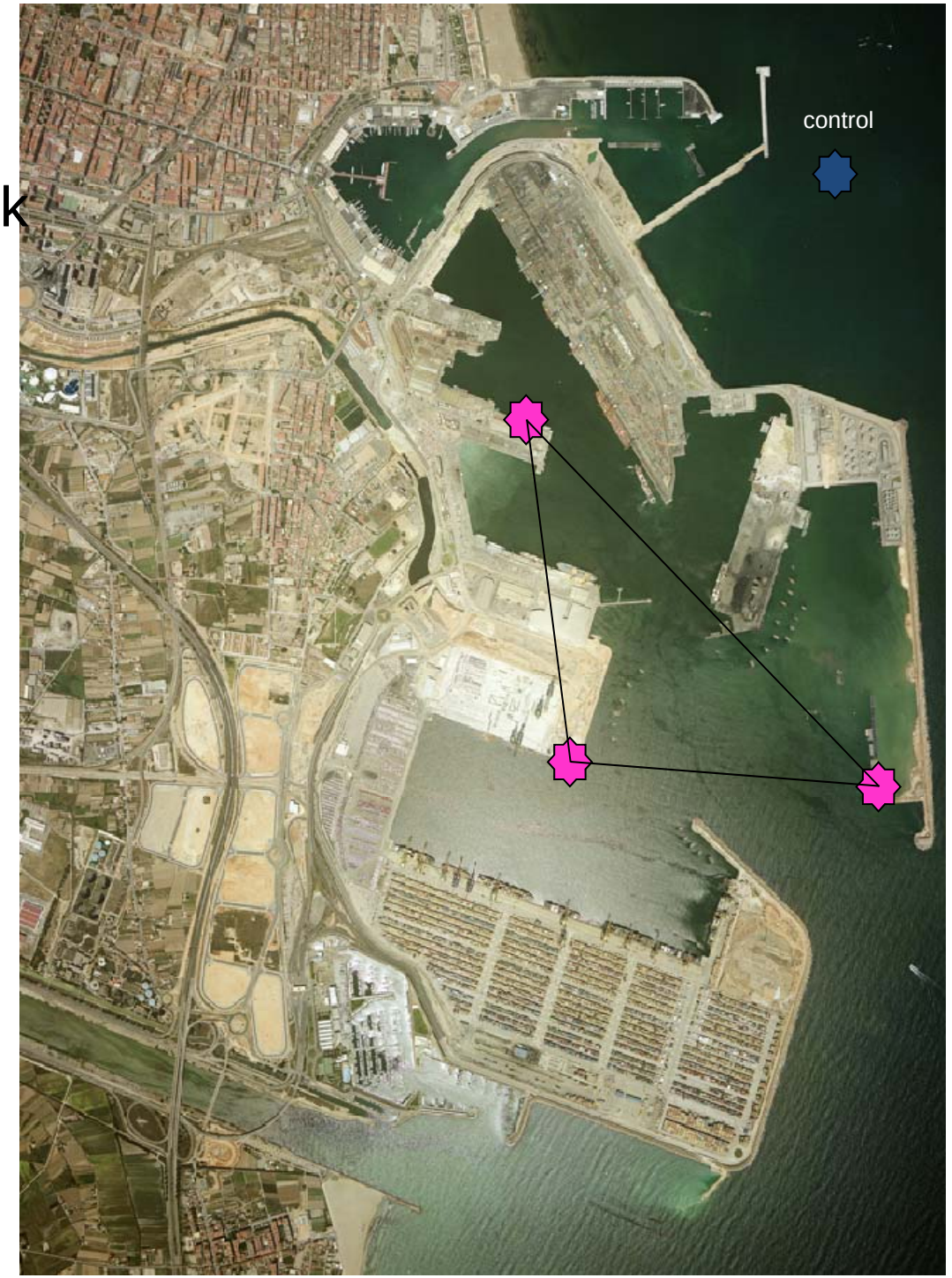
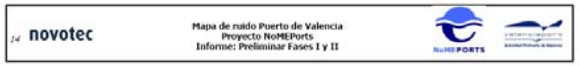


Noise Quality Control Network

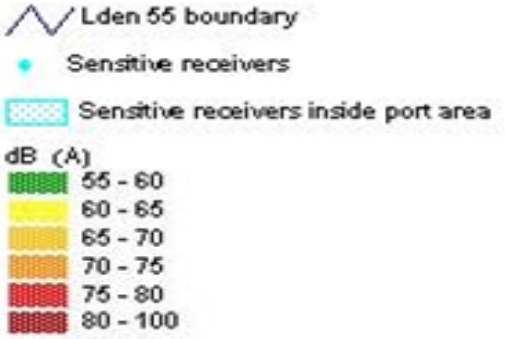
Noise levels

- **Industry (IPPC / no IPPC)**
- **Road traffic**
- **Railway**
- **Ships**



ESTADO ACTUAL DE LA INFORMACIÓN DE PARTIDA			
INPUTS PARA MODELIZACIÓN	**POSIBLE INFORMACIÓN**	**FUENTE**	**ANÁLISIS**
Información general			
Cartografía georeferenciada del área de estudio	Cartografía en AutoCad 2D área estudio	Departamento de cartografía APV	Actualización año 2006 Edificios sin altura Definición no válida de edificios Ausencia de curvas de nivel
	Cartografía en AutoCad 3D área estudio	Departamento de cartografía APV	Actualización año 2003 Edificios con altura pero definición no válida Contiene curvas de nivel
	Delimitación del recinto portuario	Departamento de cartografía APV	Disponible en formato DXD.
Ruido industrial			
Identificación y localización de empresas	Listado actualizado de empresas presentes en el recinto portuario (tabla Excel)	APV	Actualización 2005
	Delimitación de cada concesión con nombre empresa	Departamento de cartografía APV	No se conoce fecha actualización
Identificación y localización de fuentes de ruido de cada empresa	Base de datos de maquinaria por empresa.	Anuario estadístico 2005 del puerto de Valencia	
	Listado de maquinaria de cada empresa	Cada empresa	Se ha solicitado a Marítima Valenciana
	Planos de maquinaria de cada empresa	Cada empresa	Se ha obtenido esta información de Marítima Valenciana (localización de grúas y de viales)
Potencia acústica de las fuentes de ruido	Marcado CE de la máquina	Cada empresa	Se ha solicitado a Marítima Valenciana. Todavía no se tienen los datos.
	Información del fabricante	Cada empresa	Se ha solicitado a Marítima Valenciana. Todavía no se tienen los datos.

8/14



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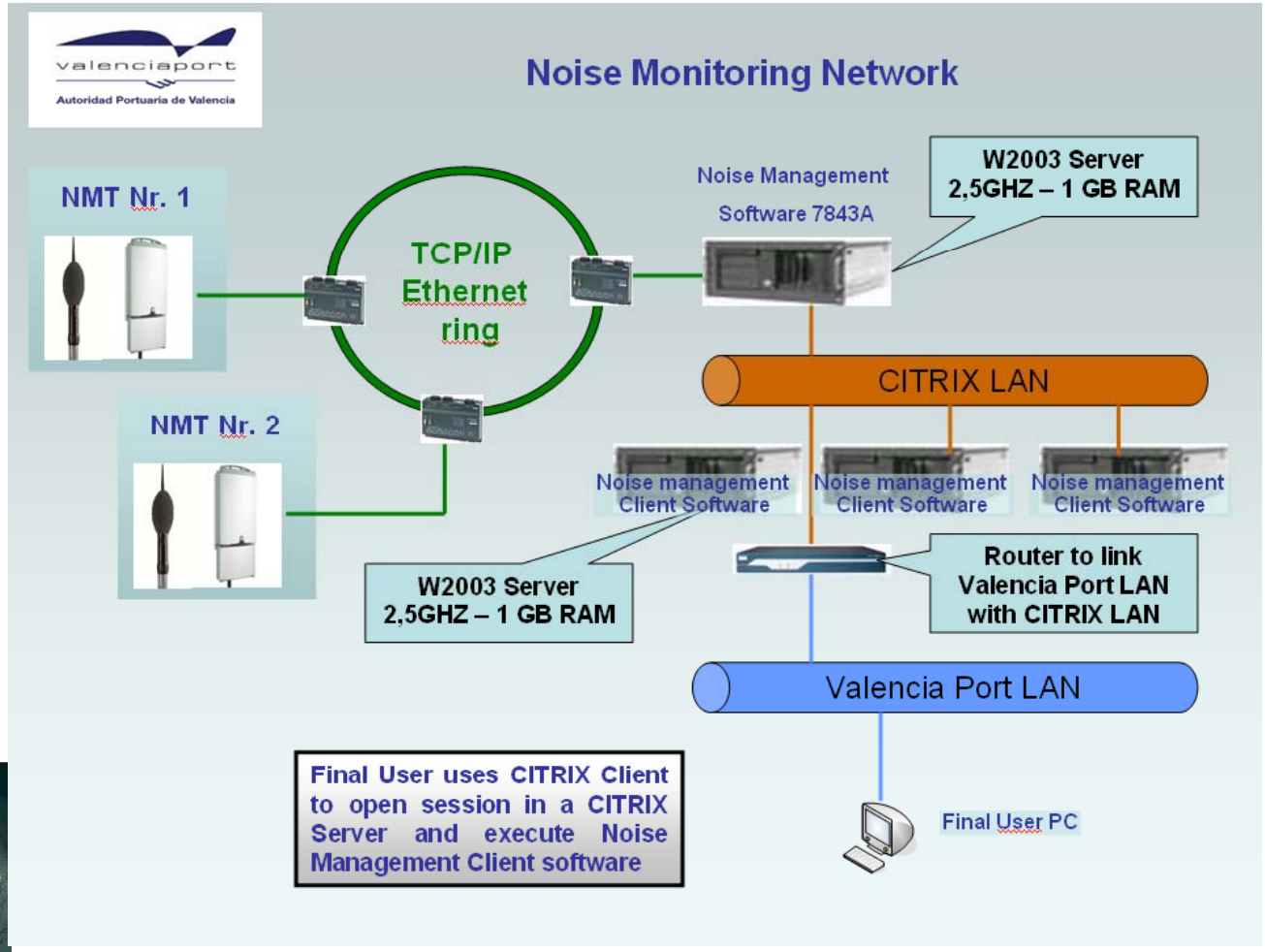
Noise Quality Control Network

There is a router connected to CITRIX LAN and to Valencia Port LAN. End-user PCs are

connected to Valencia Port LAN and access the CITRIX servers through the router. Users open a session in a CITRX server and they execute the Noise management client application.



Waste Management

Project Name: WASTE MANAGEMENT ON PORT AREAS	
Country: Spain	**Location within Country:** Valencia
Initiator: Valenciaport (Valencia Port Authority)	**Start and Completion Date (month / year)** On going project
Key words: WASTE MANAGEMENT	**Website / Report / etc:** www.valenciaport.com

Description project / initiative:

The port of Valencia is pioneer on waste management in port areas. This statement is due to the existence of specific facilities for MARPOL waste reception Annexes I and IV and the existence of a Waste Transfer Center (CTR), where wastes generated in the port are managed and segregated before delivery to an authorized treatment facility.

The port of Valencia has also implemented an updated Waste Management Plan in order to be up-to-date with the new legal requirements arised from International Conventions, EU Directives or other local legislation.

Specification of Sustainable activities and outcome (incl. goal):

The aim of these actions is to efficiently manage waste and facilitate the delivery and management of them by vessels calling at the port of Valencia.

Relevance to report:

This is an example on good practices for waste management, related to one of the environmental issues considering in this report to play a relevant role in ports:

- Waste and material

Feedback initiator (if any):

The ISO 14001:2004 certification achieved by the Port Authority of Valencia in 2006.
The EMAS certification achieved by the Port Authority of Valencia in 2007

Lessons learned for future projects

If the port provides the facilities, waste generators are more led to implement better environmental practices.

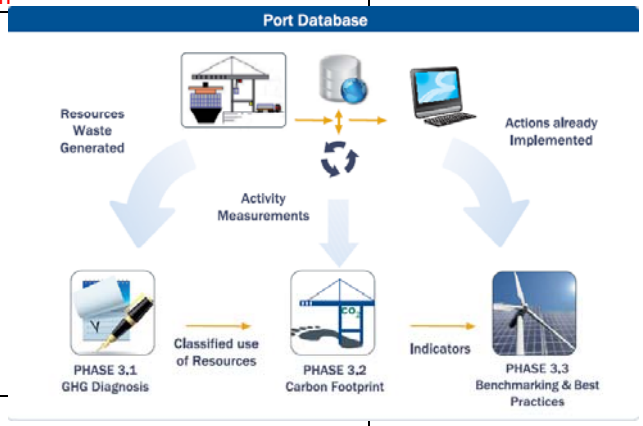
As future challenges is the creation of similar facilities for waste management in the port of Sagunto, another port under the management of the Port Authority of Valencia.

Energy Conservation and Climate Change Mitigation

Project Name: CO2 FOOTPRINT CALCULATOR	
Country: Spain	**Location within Country:** Valencia
Initiator: Valenciaport (Valencia Port Authority)	**Start and Completion Date (month / year)** 2009 - 2012
Key words: ENERGY, CARBON FOOTPRINT, CALCULATOR	**Website / Report / etc:** www.climeport.com

Description project / initiative:

The Port Authority of Valencia, together with five other European seaports, has developed a methodology to obtain an accurate estimate of the carbon footprint taking as starting point a comprehensive inventory of GHG emissions. This method is classified into 4 levels, with level 1 (the port as a whole), level 2 (port activities), level 3 (services and processes) and finally, level 4 (port equipment and machinery). This way of classifying the information to be collected by the participating ports, allowed to know the main impacts of ports as well as to implement measures and solutions in those operations with greater impact.



Specification of Sustainable activities and outcome (incl. goal):
The inventory was used as the data source to calculate the carbon footprint. This indicator allowed to know the real impact of port activities both globally and for each one separately. This indicator (tones of CO2 equivalent per ton of cargo handled) is a key element to track and control measures to be implemented in terms of reducing GHGs.

Relevance to report:
This system allows to monitor the following environmental issues considering in this report to play a relevant role in ports:

- Energy and Climate Change Mitigation

It also shows the way to present results on a comprehensive manner.

Feedback initiator (if any):
The need to fight against the GHG emissions on port facilities.

Lessons learned for future projects
An on line tool called ECOABACUS (currently at a validation stage) has been designed to facilitate the calculation of the carbon footprint of ports, that could be used to control energy consumptions.

PROVING ACHIEVEMENTS

Year	Environmental Certifications	
2000	Environmental Policy approved on 12 April 2000 and revised by the Board of Directors of AVP on12 January 2006.	
2003	APV is the first Spanish Port to obtain the certificate in the Port Environmental Review System (PERS)	ECOPORTS PERS CERTIFIED
2006	APV achieved certification of the EN ISO 14001:2004 Standard on Eco-management in response to commitments acquired in its Environmental Policy	
2007	APV received EMAS II Validation and Verification (A Community Eco-management and Audit. Scheme). In this way, the Valencia Port Authority now possesses the ideal tools for achieving its environmental objectives and goals as stipulated in the Environmental Policy	EMAS VERIFIED ENVIRONMENTAL MANAGEMENT
2000-2011	**Environmental Projects & Initiatives**	

ECOPORT (LIFE), ECOPORTS(FP5) , HADA (LIFE), INDAPORT (National), SIMPYC (LIFE), NOMEPORTS (LIFE), ELEFSINA BAY 2020 (LIFE), MADAMA (Interreg), EFICONT (National), ECOLOGISTYPORT (National), CLIMEPORT(MED),…..

Networks : AIR QUALITY, NOISE MONITORING, WATER QUALITY CONTROL, ECOPORT LEX

Promotion and Dissemination: Environmental Good Practices guides, Guide for the Implementation of Eco-management Systems in Ports (I and II (by levels)), Newsletters, Brochures, Conferences, Workshops, ….

PROVING ACHIEVEMENTS

System of Environmental Tools for the Spanish Port System

Information Exchange and Impact Assessment for Enhanced Environmentally-Conscious Operations in European Ports and other Terminals

An Automatic Tool for Environmental Diagnosis

Inter-regional and transnational programme of maritime safety and environmental protection in the Western Mediterranean

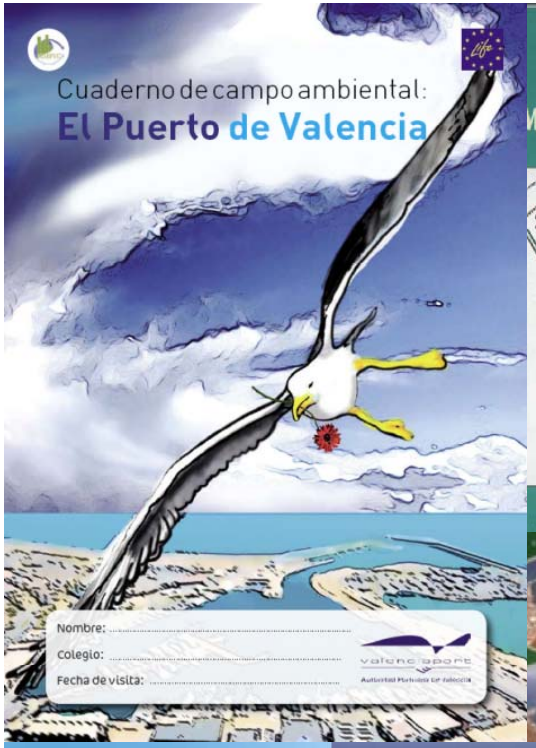
Risk management for dangerous goods traffic in the Mediterranean

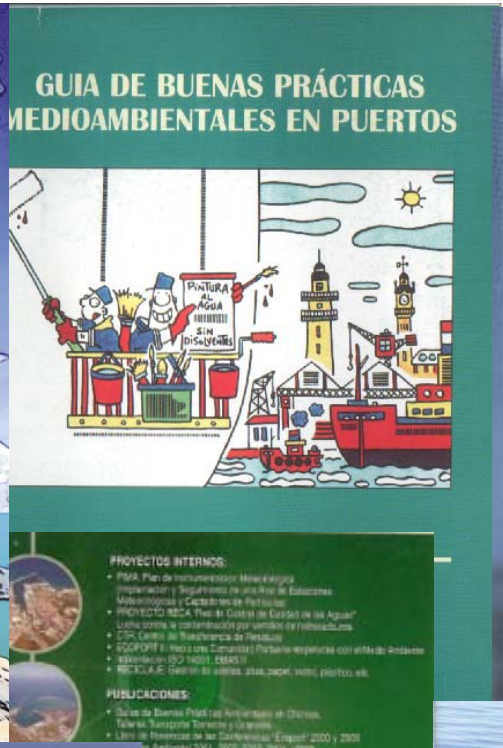
Noise pollution management in European ports

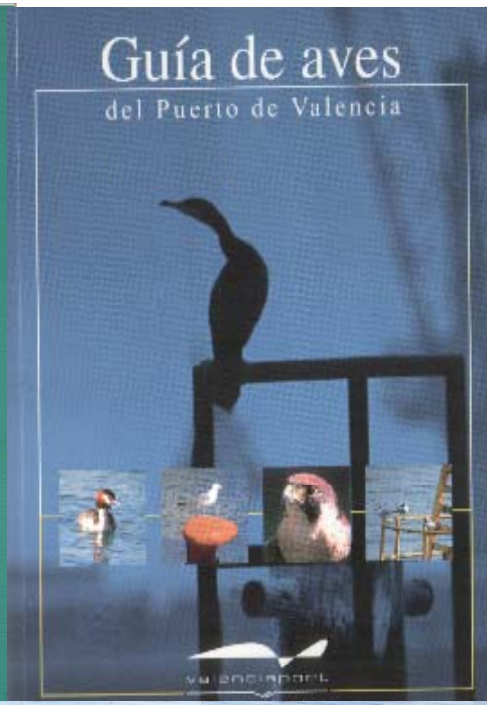
City and Port Environmental Integration Systems

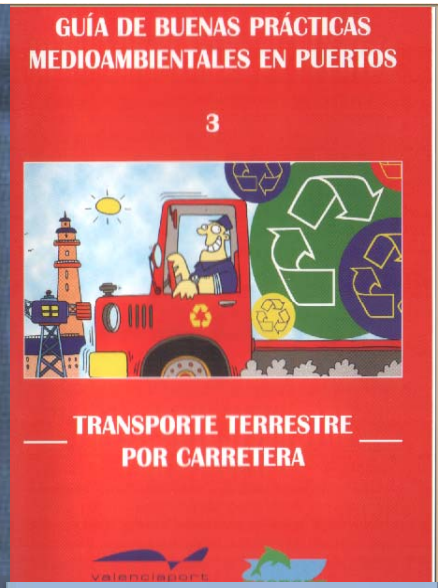
Mediterranean Ports' Contribution to Climate Change Mitigation

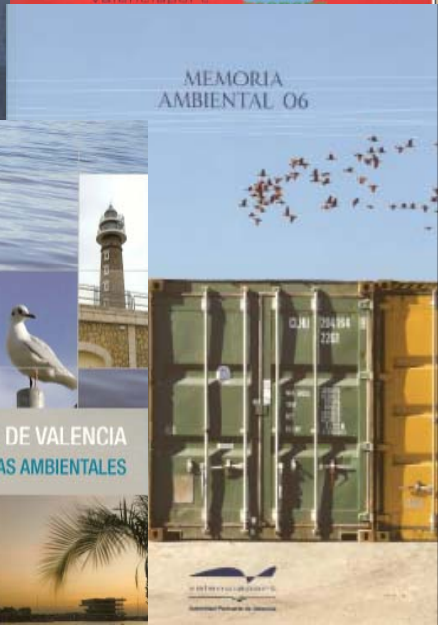
COMMUNICATION












Thank you for your attention!!!
Furthermore, please contact with us
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