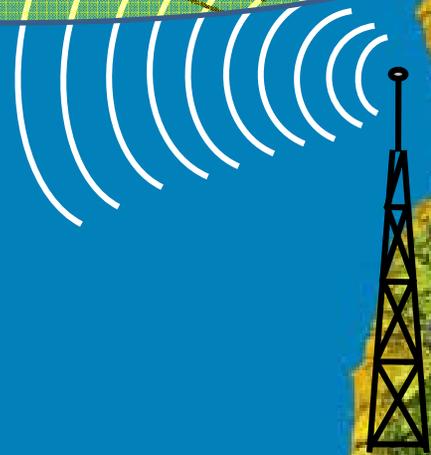
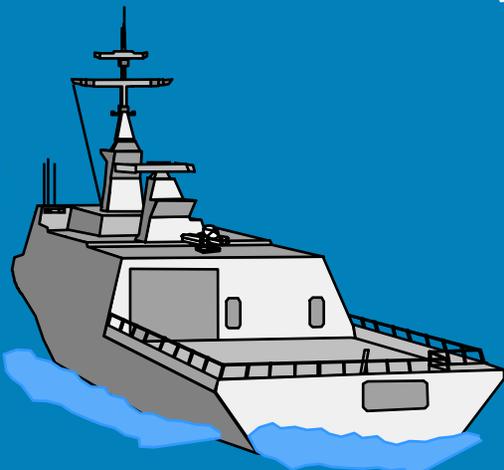
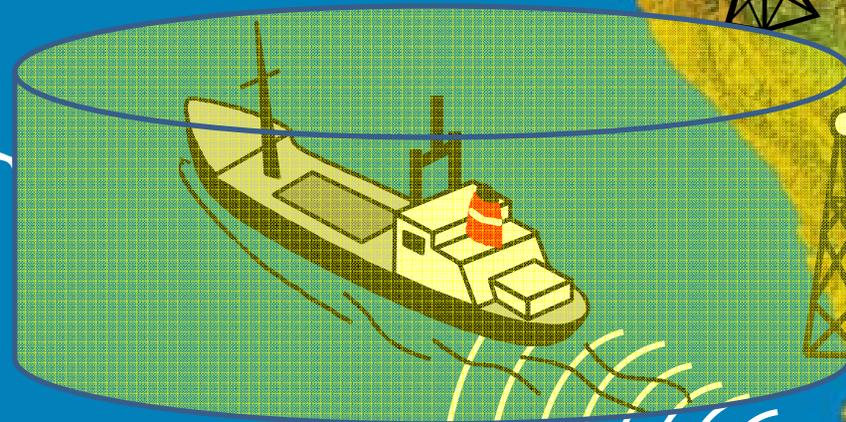


ESTABLISHING CONGO'S NAVY OPERATION CENTER (NOC) IN THE GULF OF GUINEA



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United-Nations - Nippon Foundation fellowship

2010-2011

INTRODUCTION

- 80 % of global traffic is transported by sea and oceans
- 70 % of the Earth is covered by oceans
- 33 % of global oil production is extracted from oceans
- 30 % of CO₂ is absorbed by oceans

All these figures show that nowadays the marine environment is getting a very important impact on the mankind's life and activities. The sea is becoming more and more the Earth's future and its nations . To be interested today by the marine environment issues means to be interested by the most major global issues of tomorrow.

The Africa continent, straddling two great oceans(Atlantic: the second greatest one in the world, Indian : the third one) is highly concerned by these issues.

But this presentation will be just focused on the part of one of these oceans (Atlantic) called Gulf of Guinea for which **this research suggests a way to establish a NOC for its maritime security.**

PLAN

I- Gulf of Guinea and maritime security requirements

II- Sub regional maritime strategy in the Gulf of the Guinea

III- Focus on the Republic of the Congo

IV – Establishing Navy Operations Center (NOC)

A- Operational chain

B- Technology of data acquisition and management

C- Command of the action at sea

D- Legal framework

Gulf of Guinea and maritime security requirements

From the Cape Palmas until
Cape Santa Maria (Angola)
More than 6000 km

Natural resources :

- Oil estimation: 50 billion barrels,
- Natural gas : 3 863 billion m³,
- Halieutic resources : One of the marine area the most abounding in fish in the world.
- world's greatest reserve of humpback whales, ...

Gulf of Guinea and maritime security requirements

Strategic area :

- Heart of Africa : junction of great seaways
- But also: numerous developed countries' oil interests
 - Europe: SHELL, British Petroleum and Total Fina Elf
 - USA: Exxon mobil, chevron , Conoc Philips , Occidental Petroleum, Ameradas Hess, Marathon Oun Perenco
 - Other: Petrona , Chinese National Petrole Corporation, ENI, Schlumberger, Sonair...



Gulf of Guinea and maritime security requirements

- Military presence:

- Corymbe: French permanent navy operation (since 1990) intended to patrol in the Gulf of the Guinea
- APS: US navy mission intended to improve maritime security and safety in Africa (since 2006)



Gulf of Guinea and maritime security requirements

Maritime threats

- Illegal fishing: waste of 1million US \$ / year
- Piracy: 104 piracy acts in 2009 (77 Nigeria, 22 cameroun, 5 Equatorial Guinea)
- Marine pollution: 1.501.956 tons of oil spill (from 1960)
- Drug trafficking: ¼ of the consumed cocaine in Europe passes in transit through Africa (west Africa)
- Dumping of toxic waste at sea: Probo Koala, 580 Tons in Abidjan (Ivory coast, August 2006)
- Illegal immigration: 200 people drowned in the shipwreck In the offing of Kribi (Cameroon) in destination to Gabon (april 2006)

Gulf of Guinea and maritime security requirements

Sub regional response : *Common strategy for increasing vital interests security at sea of the ECCAS' States of the Gulf of Guinea (2008).*

ECCAS

- Created in 1983 and 10 Member States;
- Goal: creation of a customs union and establishment of common sectorial policies.
- Since 1999 : peace keeping capacity and prevention of conflicts in central Africa by creating an organ called COPAX.
- COPAX: Project manager of the strategy

**Economic Community of Central African States
Central African Peace and Security Council**



Carte de la CEEAC



Depuis 2007, le Rwanda s'est retiré de la Communauté Économique des États de l'Afrique Centrale

Gulf of Guinea's sub regional maritime Strategy

Functional bodies of the strategy

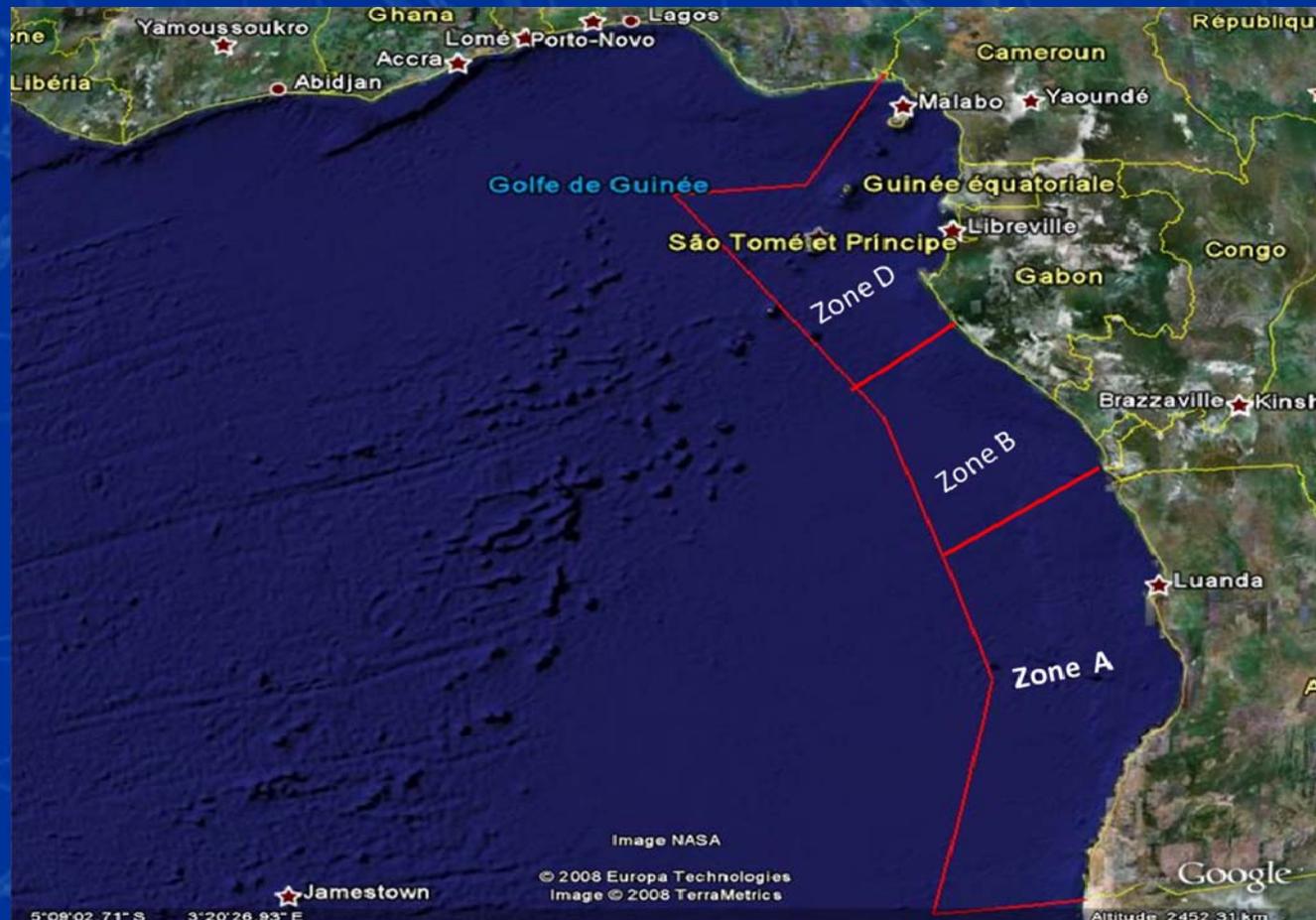
- Regional Centre for the Maritime Security in the Central Africa (CRESMAC, french initials)
 - Multinational Centre of Coordination (MCC)
 - Navy Operations Centre (NOC)
- Main research topic: NOC

Sphere of activities

- Zone A : Angola ;DRC. Pilot State : Angola ;
- Zone B : Angola ; Congo ; Gabon. **Pilote State : Congo ;**
- Zone D : Cameroon ; Equatoriale Guinea ; Sao Tome and Principe ; Gabon. Pilote State : Cameroon.

Gulf of Guinea's sub regional maritime Strategy

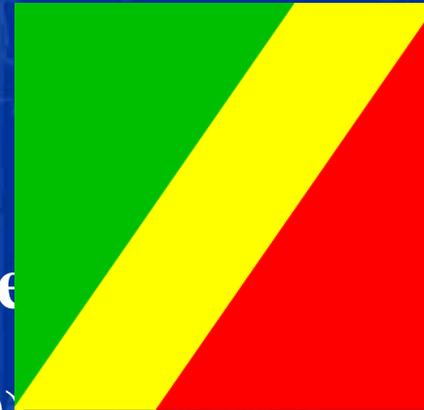
- Only the zone D is operational (the most exposed to piracy acts)
 - CRESMAC = Pointe Noire (Congo) , Congo = Pilot State zone B
- Subject: Congo's NOC



Focus on the Republic of Congo

Generalities

- Political Capital : Brazzaville
- Economic Capital :Pointe-Noire
- French former colony (till 1959)
- Administrative language: french
- Area land : 342 000 Km²
- Population: 3 110 000 h
- Coastline: 92 nautical miles
- Oil royalties: 50 % GDP
- Pointe Noire's port: only deep-sea port in the sub region,

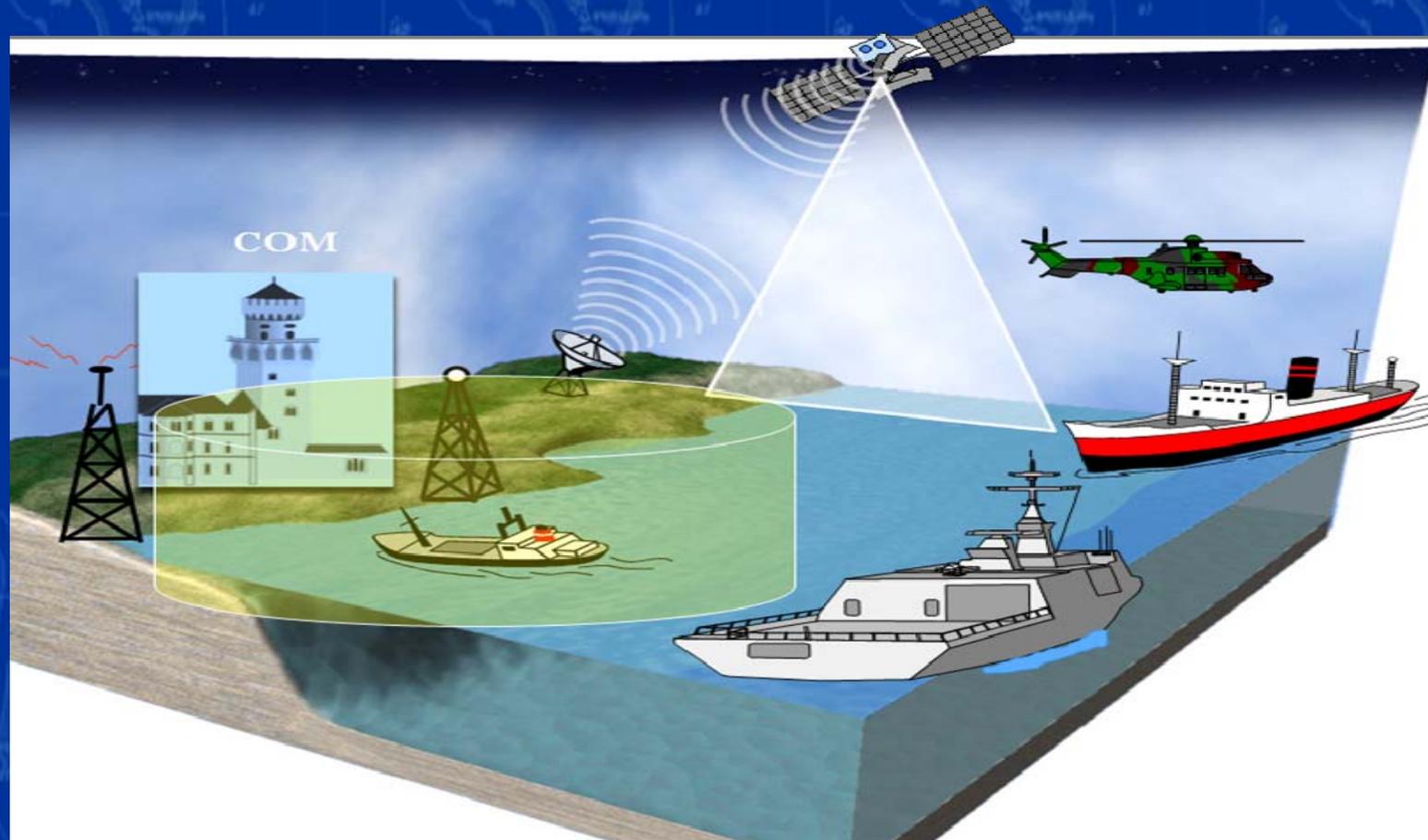


Gross Domestic Product

ESTABLISHING NAVY OPERATIONS CENTER

Research proposal

Congo's police port authority = Operations Direction
+ Public Service Missions Direction



Operational chain of the NOC

NOC: Civilo-military organ in charge of the execution of the ECCAS's maritime strategy at the tactical level, the secular arm of the Operations Direction.

Missions of the NOC

-Military Missions : Operational controller of the warships.

Meaning: Responsible of execution and control of a military mission in its sphere of activities (by using warships) on behalf of the Army Forces

-Public service Missions : interdepartmental coordinator of the governmental action at sea.

Meaning: coordinate the action all the public departments involved at sea to achieve the Public service assignments

Operational chain of the NOC

Operations Direction

This Direction consists in commanding, coordinating and following the sea operations .

- **Operations Director : Head of the Operations Direction**
- **NOC's Commandant / Chief : Deputy OPS DIR**
- ✓ **4 divisions: facilitate the permanence of the NOC's**
- Action in a room called: Operations Management Room (OMR)**

DIR= Director, OPS: Operation

Operational chain of the NOC

Operations Direction: 4 main Divisions

-Division « Operations Management »:

- planning , preparation of the OPS (civilian and military)
- 2 services:
 - ✓Surface Service : OPS (ships)
 - ✓Air Service : OPS (aircrafts)
- OPSCEL: synthesize and update the information related to the sphere of activity for the OMR (+ Air/Surface Unit Operators)

-Division « Communications »:

- OMR's Communication : all ships and partners
- Provide the OMR with the communications technicians

OPS CEL: Operations Cell ;

Operational chain of the NOC

-Division « Intelligence »:

- **Intelligence:** collect permanently information about the sphere of activities
- **sources:** civilian and military Intelligence agencies
- **Intelligence Report** in collaboration with the OPSCEL on behalf of the OMR

- Division « Logisitics »

- **Logistical support** of the whole Direction
- **OMR's digital equipments maintenance**
- **Provide the OMR with the electronics engineers on duty**

Operational chain of the NOC

Operations Management Room (OMR)

Mission: Maintain the permanence of the NOC's Action (24H / 24) by the control of the Surface/Air tactical situation. Its full team is provided by all the divisions

-Operations Permanent Officer (OPO):

- **Responsible of the permanent NOC's Action (24 H)**

-Operations Watch Officer (OWO): junior Officer

- **Manages in real time the OPS**

-On-Call Duty Officer (OCDO) from the PSMD

- **OPO's legal and administrative advisor**

-Technicians et Operators :

- **Maintenance of the NOC'S equipments**

- **Radio , sea or air traffic operators...**

PSMD : Sea Public Service Missions Direction

B-Technology of data acquisition and management

OMR's Equipements

- Aim: Allow the OMR's team to manage, coordinate, intervene and to follow the sea OPS
- Approach to the problem: Detect-identify-coordinate-intervene

Equipments of detection:

-Maritime Radars :

- Adapted Discrimination to the threats (particularly to dugouts)

- Disadvantages:

- ✓Range: 20-30 nm

- ✓ Incapacity to detect wooden small ships (also in composite)

Nm= nautical mille



Technology of data acquisition and management

➤ AIS= Automatic Identification System

-radio (VHF) system dedicated to the automatised message exchange between **ships-ships** and **ships-on shore stations**

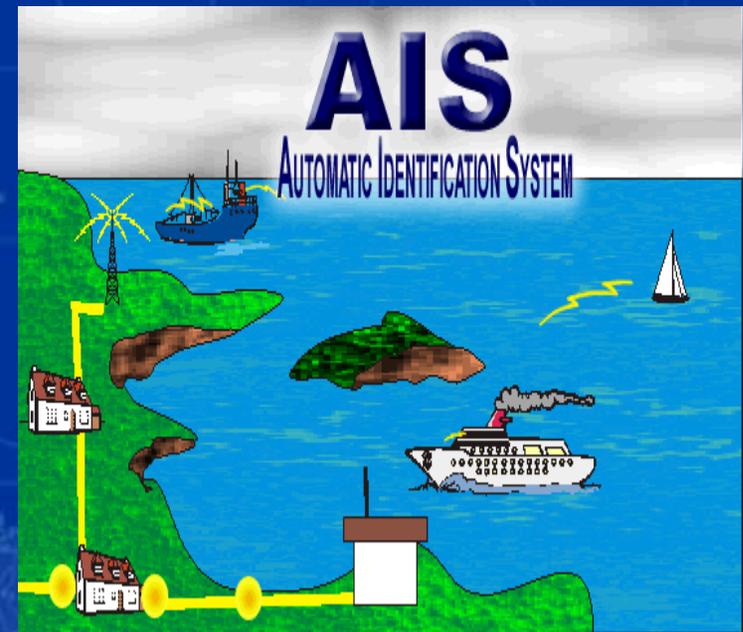
-Information content : identity, status, position, course

Disadvantages:

Range:40 nm

Manual Acquisition : Name , IMO Number or the destination.

NMEA 0183: possible transmission of an erroneous position or identity.



Technology of data acquisition and management

Satellite: VMS

Aim: regular ship position; global range

Ships: automatic data sending to the satellite then processing in a FMC

Sphere of activity: illegal fishing indeed pollution

Disadvantages: EU exclusivity

Manual acquisition of the fished rates

Other possibilities:

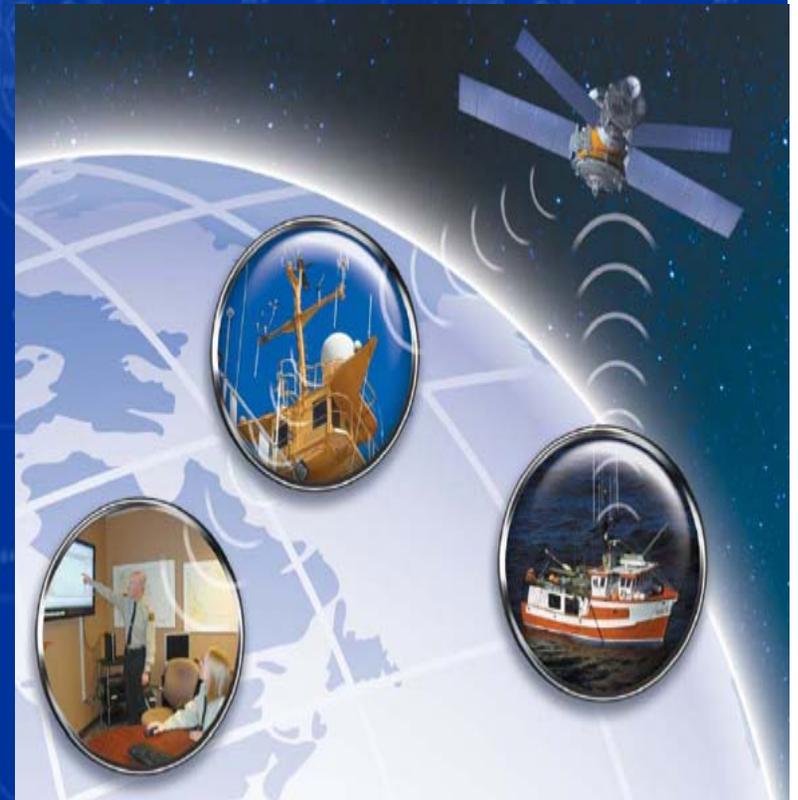
VSAT, INMARSAT

VMS: Vessel Monitoring System;

FMC: Fishing Monitoring Centre

VSAT: Very Small Aperture Terminal

INMASAT: International maritime satellite organization



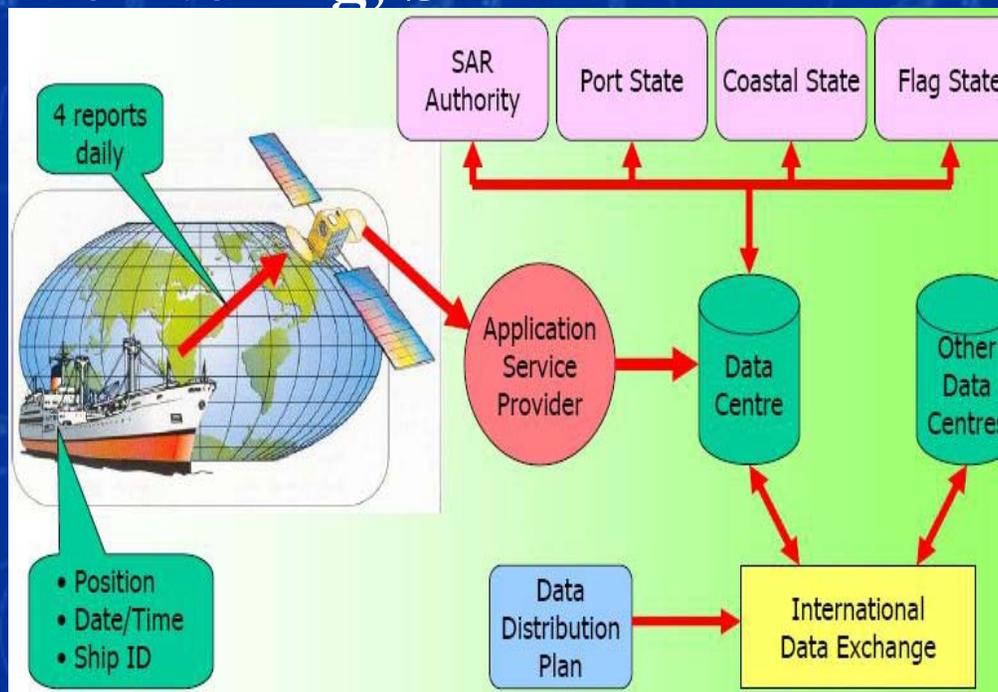
Technology of data acquisition and management

➤ Long Range Identification and Tracking : LRIT

Aim: ship localization by means of the sending of a message (ship ID, position, T= 6 h)

Addressees: Coastal, Flag and port State (range 1000 nm from the shoreline)

Range and sphere of activity: Global (satellite) , maritime navigation monitoring, SAR



LRIT SYNOPSIS

Technology of data acquisition and management

Equipments of identification : identify.

Video Cameras.

optronics = efficient for the ship identification (night and day)

Servo-control by the radar (automatic monitoring of radar tracks)



Technology of data acquisition and management

Equipments of coordination

Electronic Chart Display and Information System (ECDIS)

for the data issued from the sensors + telecommunication

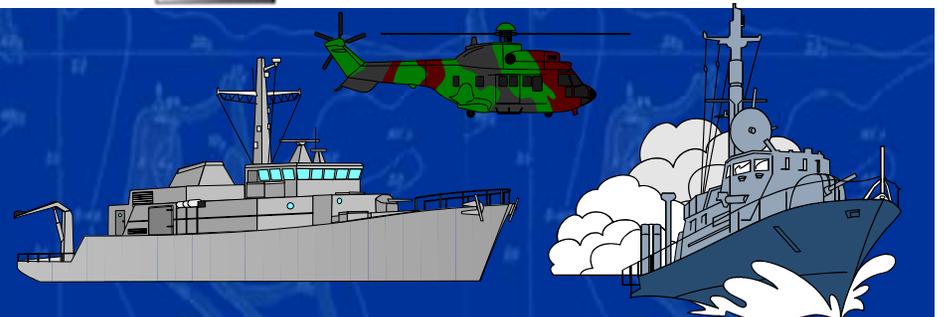
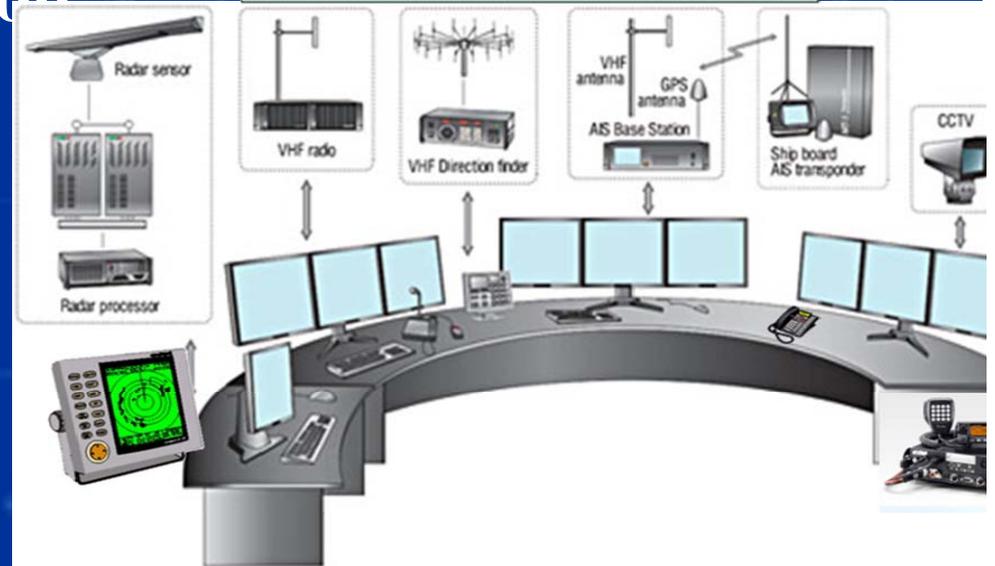
Systems (VHF, MF, UHF, SHF, phone...)

Preference: ENC chart rather than RNC;

Equipments of intervention

Ships and aircrafts of partners

ENC: Electronic Navigational Chart; RNC: Raster Nautical Chart;



Technology of data acquisition and management

Information research (free access) and partners

shipping weather forecast:
allmetsat.com
Observation, forecast,
satellite pictures

AIS: marinetraffic.com/ais
Global identification of
ships detected by AIS
antennas

Images satellite	Climat	Cyclones	Foudre	Aéroports	FAQ	Langues	Contact	Actualités	A propos
Météo:	Europe	Afrique	Amérique du Nord	Amérique du Sud	Asie	Australie-Océanie	Autres		

Pointe-Noire, Congo
latitude: 04-49S, longitude: 011-54E, altitude: 17 m

Heure: 16:51 (15:51 UTC)

Observation	Prévision
Le bulletin a été fait il y a 51 minutes, à 15:00 UTC	Le bulletin a été fait il y a 5 heures et 51 minutes, à 10:00 UTC
Vent 05 kt de sud/sud-ouest , variant entre sud-ouest et ouest	Prévision valable du 29 à 12 UTC au 30 à 12 UTC
Température 24°C	Vent 06 kt de sud-ouest
Humidité 94%	Visibilité 10 km ou plus
Pression 1009 hPa	Nuages épars à une hauteur de 1600 ft
Visibilité 6000 m	Nuages fragmentés à une hauteur de 3300 ft
Nuages fragmentés à une hauteur de 800 ft	Probabilité 30%:
Nuages fragmentés à une hauteur de 2600 ft	Temporairement du 30 à 03 UTC au 30 à 09 UTC
Ciel couvert à une hauteur de 10000 ft	Visibilité 4000 m
faible pluie	Nuages fragmentés à une hauteur de 1000 ft
Changer d'unités	Ciel couvert à une hauteur de 2300 ft
	bruine

METAR: FCPP 291500Z 20005KT 220V280 6000 -RA BKN008 BKN026 OVC100 24/23 Q1009 NOSIG
short-TAF: périmé (4079 heures)
long-TAF: FCPP 291000Z 2912/3012 22006KT 9999 SCT016

Live Map | Vessels | Ports | Gallery

World Map | Cover your Area | Frequently Asked Questions | Services

Ships Map

Go to Area...
Go to Port...
Go To Vessel...

Notation & Display options:

- Show Ship Names
- Ports Stations
- My Fleet
- Passenger Vessels
- Cargo Vessels
- Tankers
- High Speed Craft
- Tug, Pilot, etc
- Yachts & Others
- Navigation Aids
- Unspecified Ships
- Ships Underway
- Anchored/Moored

POWERED BY Google

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Technology of data acquisition and management

Equasis ,

Available: via internet since 2000,

-around 70 000 vessels , more than 40 information sources

- sources: classification , insurance, shipowner societies ,

MOUs (Paris , Asia pacific, US coast guard)

Disadvantage: Tokyo MOU (monthly update).

**MOU: Memorandum
Of Understanding**

Home
Contact us
Help
FAQ

You have not registered :
▶ REGISTRATION
▶ You are registered :
▶ LOST PASSWORD

About Equasis

Ship search

Company search

equasis

2010-08-17
Technical team advises you to clear your internet cookies, temporary, historic files and bookmarks before registration or search. Don't forget to activate your account with the link provided in mail after registration. Report registration error to [Support team](#)

E-mail :
Password :

Technology of data acquisition and management

SIRENAC 2000

Operating Software of the Paris MOU's database

Futur plan: THETIS , 2011 onwards

A part of the SIRENAC database is free access

Abuja Mou's IPC : Pointe-Noire (Congo-Brazzaville)

GUMAR (reserved access)

Digital system for the one maritime window of the Pointe noire's port

Inspection Search
[Basic inspection search](#) [Advanced inspection search](#)

Inspection database | Basic search

Period: All 2006 to All 2010

Ships' data

IMO Number :
Name:
Flag : All
Type : All
Maximum results : 25

Disclaimer:
The Paris MOU (its member authorities, the secretariat and the SIREnAc manager) will not be held liable for any loss, damage, or harm resulting from the use of information contained in this database, or of any reliance on its accuracy, completeness or timeliness.

IPC: Information Processing Centre

THETIS :The Hybrid European Targeting and Inspection System

Technology of data acquisition and management

Partners:

Operational Organs of the
Congo's Army Forces ,
Operations Centres of each
public agency operating at
sea
State Parties' NOC network
Abuja MOU Centre

The screenshot shows the homepage of the Guichet Unique Maritime website. The header features the GUMAR logo (a stylized 'G' with a yellow and red gradient) and the text 'Guichet Unique Maritime de la République du Congo'. A navigation bar includes links for 'English', 'Sociétés', 'Portail', and 'Chercher'. The main content area displays a welcome message: 'Bienvenue sur le site web du Guichet Unique Maritime de la Place Portuaire de Pointe-Noire'. A large graphic of the GUMAR logo is centered on the page, with the text 'Guichet Unique Maritime' below it. A sidebar on the left contains a menu with the following items: 'Afficher tout le contenu du site', 'Présentation du Guichet Unique Maritime', 'Pourquoi', 'Avantages', 'Objectifs', 'Grands Principes', 'Partenaires', 'Galerie Photos', 'La République du Congo', 'Informations', 'Annuaire téléphonique', 'Horaire trains', 'Escalaes navires', 'PAPN Escalaes', 'Codifications douane', 'Règlementations', and 'Guestion des dangereux'.

C-Command of the action at sea

Boarding Operation

Definition :extract of CMB art. 110-2

...the warship may proceed to **verify the ship's right to fly its flag**. To this end, it may send a **boat** under the command of an **officer** to the suspected ship. If suspicion remains after the documents have been checked, it may proceed to a **further examination on board** the ship, which must be carried out with all possible consideration.

This extract can be summarized by 2 relevant notions:

Verification of the ship's flag = flag inquiry (visit)

Further examination on board = search or sweep

CMB: Convention of Montego Bay

Command of the action at sea

Boarding Operation (BO)

Aim for a private ship

to determinate its nationality , the nature and the destination of its cargo, the crew's nationality, and the use done by its transmission equipments (CMB art. 109)

The Boarding Team (BT) is a seamen's group coming from a warship (host ship), by means of a boat , whose the goal is to execute a boarding operation with regard to a suspected ship (focal ship).

Boarding Operation = flag inquiry + search.

Command of the action at sea

NOC

-Only can order the BO to a warship

Warship

-Chief: Commanding Officer

-CELCOM: liaison (from the bridge) between

- NOC and Warship

- Warship and BT

- head : warship's supply Officer (under the CO)

-CELCOM's Missions:

- make contact with the focal ship (and interrogation)

- archive Ops (conversations, pictures...)

CO: Commanding Officer

Command of the action at sea

Boarding Boat: Boarding team

-**Command Entity (CE):** responsible of the BO execution

-**Security Entity (SecE):**

- control and watch of the focal ship's crew

- reinforce the Search Entity if needed

-**Search Entity (SearE):**

- Protect of the BT while the BO movement

- Inspect the ship, cargo in order to find proofs

Command of the action at sea

Execution of a Boarding Operation

Focal ship is cooperative

warship

-Bridge: officer of the watch

- Make arrangements about the BO execution

-Combat Information Center: CIC (if provided)

- General quarters/ Battle station

- Set going the electronic warfare (EW)

- Tactical control of the helicopter (if provided)

- Briefing of the Chief of BT after checking CELCOM's information (ship name, flag, home port, port of registry, ship owner , hull number etc.)

Focal ship

Steps	Command Entity (CE)	Sweep Entity (SwE)	Security Entity (SecE)
1st Step	<p>- Progress safely towards the bridge, SweE ahead then takes control of the bridge</p> <p>- The head of the BT meets the focal ship's captain et explains the goal of the OPS before starting the flag inquiry (log books)</p> <p>-The deputy Head of the BT manages the SweE and SecE actions:</p> <ul style="list-style-type: none"> • SweE: evacuation , then puts under lock and key the radio room (in presence of the chief mate) • SecE: joins the murder station of the focal ship 's crew •Report to the CELCOM 	Progression towards the bridge	Waits at the bottom of the access ladder leading up to the bridge and prohibits every movement to the bridge
		<p>Execution of the orders concerning the radio room</p> <p>Report to the CE</p>	<p>Control s and watches the crew</p> <p>Report to the CE</p>
2nd Step	Controls the bridge, pursues the flag inquiry and protects itself	Investigation of the crew's accomodation, canteens, holds etc and control of the duty section in presence of the chief mate	Control s and watches the focal ship's crew
3rd Step	The Head of the BO makes sure the operation is executing properly and orders the investigation of the cargo	Execute the cargo investigation in presence of the chief mate R eport ASAP to the CE	Controls and watches the crew Report ASAP to the CE
4th Step	Outcomes of the global investigation	<p>-unfruitful search: return to the host ship (warship)</p> <p>- fruitful search : divert and put the ship and its crew at NOC's disposal</p>	watches the crew



Image NASA
© 2007 Europa Technologies
Image © 2007 TerraMetrics
© 2007 National Geographic Society

Angola © 2007 Google™

Legal framework

Aim: give to the chief of the boarding team the necessary legal support related to the Boarding operation execution. The boarding operation execution by a warship on a private ship within an illegal context could engage its flag State's responsibility.

Legal source: United Nations Convention on the Law of Sea

Main operations: Boarding Operation, diversion

Main key players: Warships, private ships

Maritime spaces (1)/(2)	Foreign private ships	Congo's private ships	Foreign warships
Internal waters			
Territorial sea			
Contiguous zone			
Exclusive economic Zone			
High seas			

(1): maritime spaces subject to national jurisdiction or sovereignty

(2) Foreign maritime spaces

Legal framework

Case: Congolese maritime spaces

Congo's UNCLOS ratification : January 30th 2008

Maritime spaces	Operations	References
Internal waters	BO + Div	CMB: art. 2 § 1 . Sovereignty rights
Territorial sea	BO + Div	CMB: art. 2 § 1 . Sovereignty rights , right of hot pursuit (till high seas) in accordance with right of innocent passage
Contiguous zone	BO + Div	CMB: art. 33. control , prevent, punish rights
EEZ	BO + Div	CMB: art.56. Sovereignty and jurisdiction rights in accordance with CMB: art. 58. Freedoms: navigation, overflight, submarines cables....

Legal framework

Case: High seas

Offences	Operations	references
(1) Piracy	BO + Div	CMB: art.105
(2) Slave trade	BO + Div	CMB: art.99 &110
(3) Unauthorized broadcasting	BO + Div	CMB: art.109
(4) Ship without nationality	BO + Div	CMB: art.110
(5) Pollution	BO + Div	CMB: art.221
(6) Hot pursuit	BO + Div	CMB: art.111&1
(7) Illicit traffic in narcotic drugs or psychotropic substances	BO + Div	CMB: art.108 Vienna convention 1988: art.17
(8) Maritime terrorism	BO + Div	Rome convention 1988

(1) ... (6)= no flag state agreement
(7) and (8)= flag state agreement

Rome convention: Convention for the suppression of Unlawful Acts Against the Safety of Maritime Navigation

CONCLUSION

Analysis this presentation plan

A- Operational Chain = Human resources= Man

B-Technology and data acquisition and management = Machine

C-Command of the action at sea = Procedure

D-Legal framework = Law

This research is a combination of 4 dimensions: Man, Machine, Procedure and the Law.

Here is the interaction all these dimensions:

-Man = centre of the gravity of the making decision process (NOC)

Needs:

-Machine to control the sea (limited senses).

-Procedure: efficiency about the maritime insecurity fight,

- Law: efficiency is certain if only if the action is carried out in accordance with the international standards commonly allowed by every one .

This way was for me the most obvious to solve this problem but certainly not the one.

Questions,?

The sea so dreaded and so wanted by people, the sea which separates the nations but permits them to join themselves, the sea by where the worst dangers may threaten the States; but without this one there is no greatness.

Général de Gaulle. « La Mer Avenir de la Terre, Chapitre 7, page 290 »

