



N/O *Pourquoi pas ?*

N/O *Pourquoi pas?*



Ifremer / French Navy Partnership

A requirement from 1990:

- For the French Navy, replacement of *L'Espérance* and *D'entrecasteaux*
- For Ifremer, replacement of *Nadir*



Partnership Defense-Research

- Scope of that partnership
 - Co-signed letter from ministry of Defense and Research dated 17th July 2000 fixing a common objective in terms of renewal of hydro-oceanographic civilian and military fleets.
 - Purchasing agreement Ifremer / Defense dated 12th April 2001, making mention of two vessels :

Beaufort-Beaupré

Défense 95 %; Ifremer 5%

Commissioned by the French Navy
(in service 2004)



October 2006

Pourquoi pas ?

Ifremer 55%; Défense 45 %

Commissioned by Ifremer
(in service 2006)



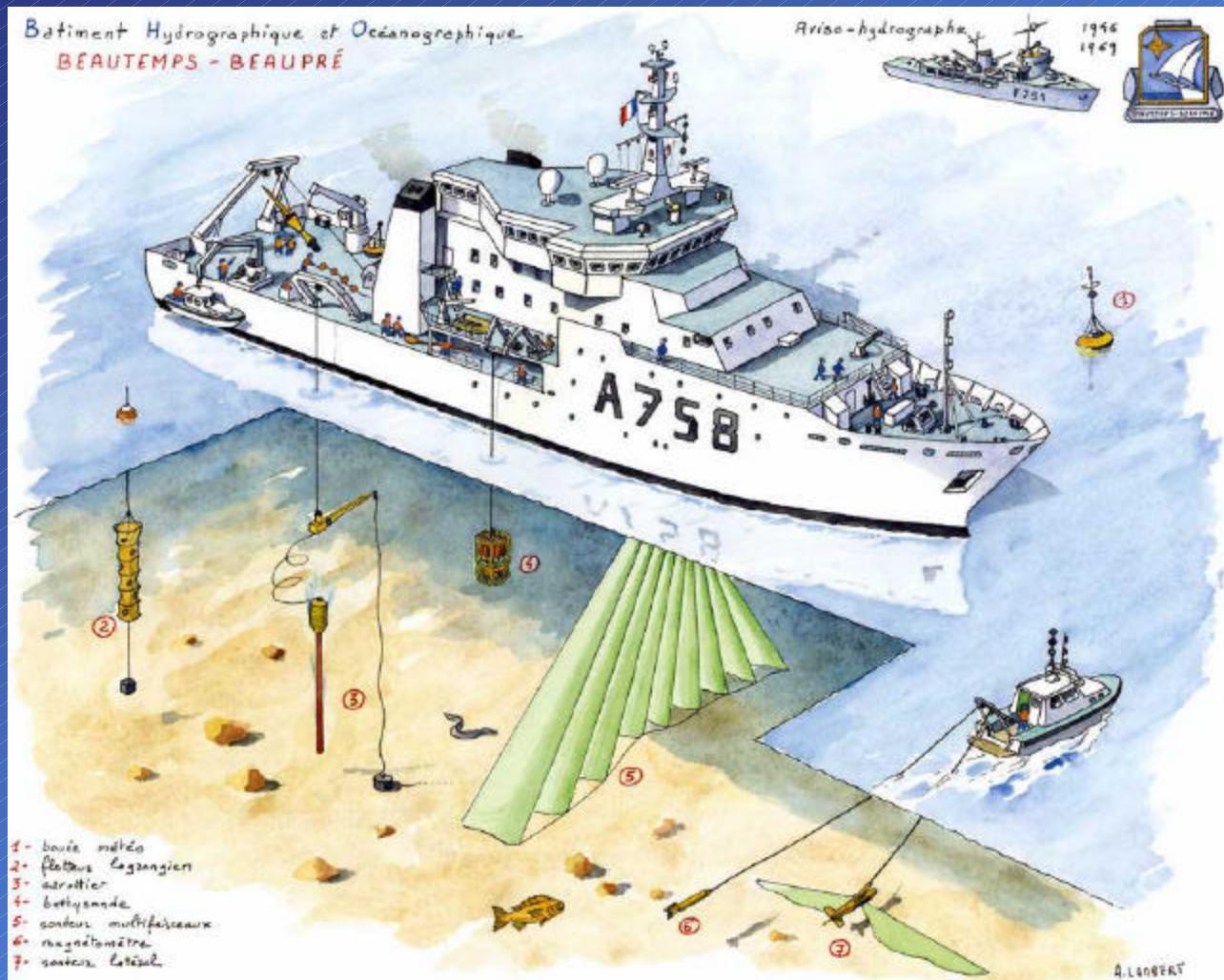
Document d'origine Alstom Marine

Beaufort-Beaupré

- Thalassa extrapolation (+ 5m)
- Build in Lorient and delivered in 2003 par Alstom Leroux Naval
- Multi-purpose vessel orientated “sailing survey”
 - Hydrographic surveys from 0 to 10 000 m
 - Oceanography : multi-scale study of physical, biological and geological processes



© Photo Alstom Marine





N/O *Pourquoi pas ?*

N/O *Pourquoi pas ?*



Missions

- Coastal and deep seas hydrography and oceanography , with deployment of hydrographic motorboats
- Survey of areas with acoustic vehicles (towed sonars as SAR) and deployment of ROVs (Victor 6000) or autonomous submarine (Nautile)
- Sampling and analyzing water, deposit or bedrocks (deploying bathysonds, corers, dredges,...).
- Submarine salvage with deployment of NewtSuit system from the French Navy.



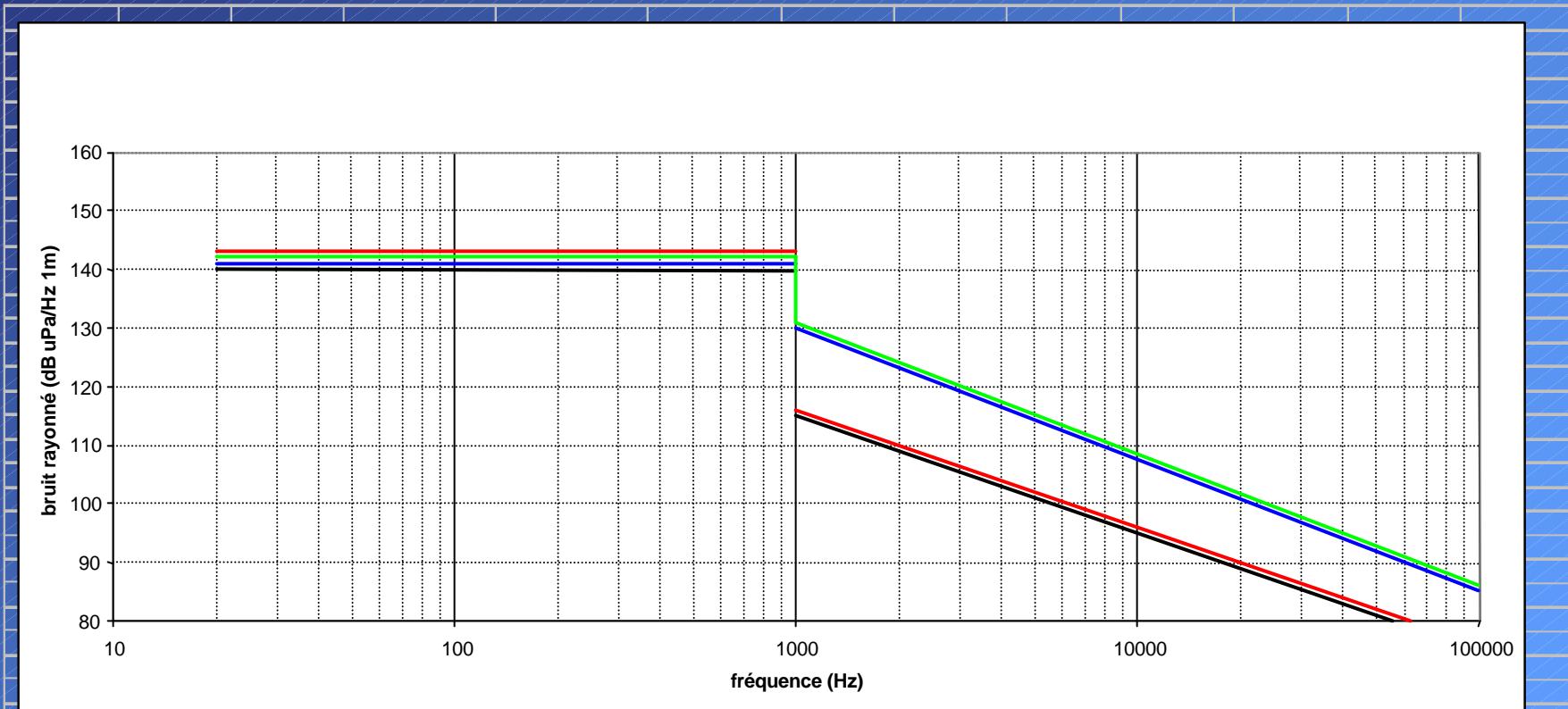
N/O Pourquoi pas ?

Pourquoi pas ? Characteristics

- Main Characteristics:
 - Length overall : 107,6 m
 - Breadth : 20 m
 - Draught : 7 m
 - Tonnage : 6600 t
 - Service speed 13,3 knots
 - Max speed 14,5 knots
 - Autonomy : 64 days at 11 knots
- Diesel electric propulsion and Dynamic Positioning (class II)
- Special Vessel, French flag, Bureau Véritas class
- Scientific party : 40

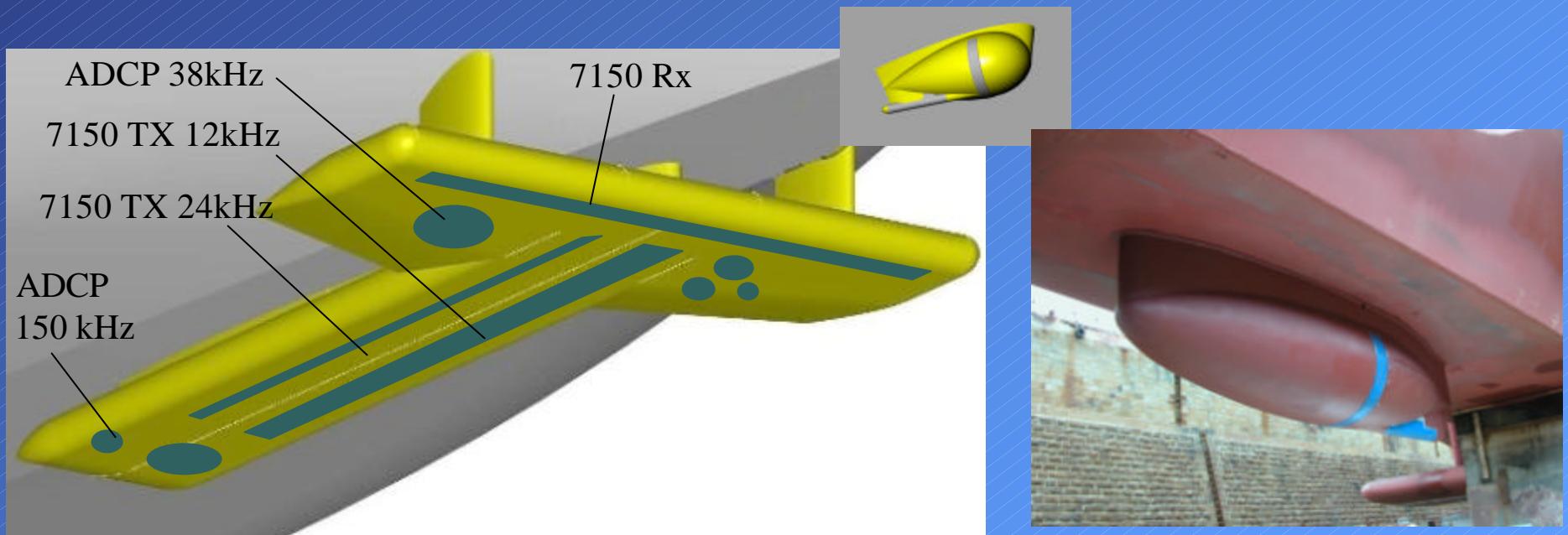
A silent ship

- Radiated noise targets

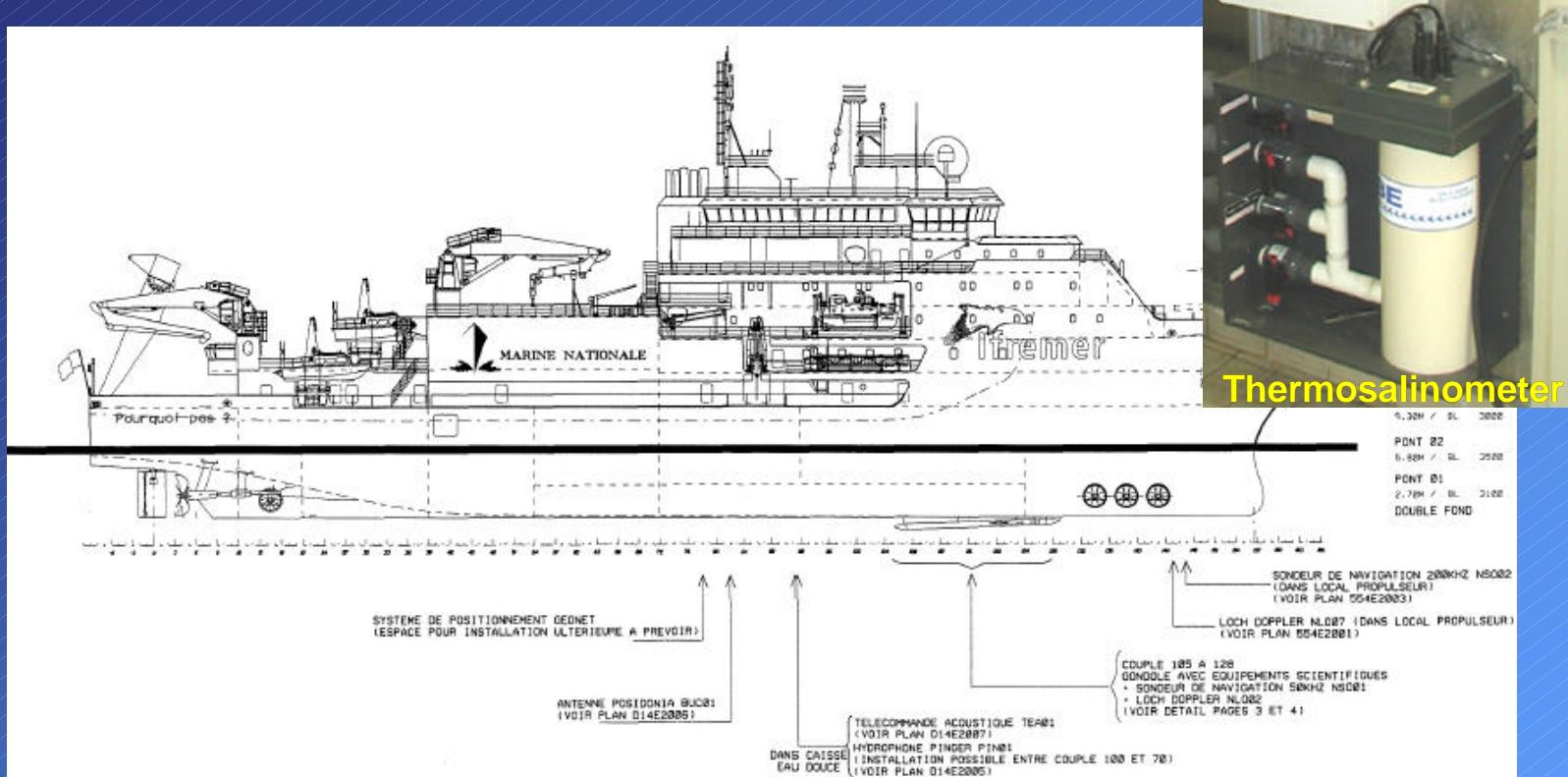


Scientific equipments

- In a gondola under hull :
 - High resolution deep sea multibeam echosounders with high seabed cover.
 - Sub-bottom profiler
 - ADCP (38 et 150 kHz)



Other scientific equipments



- Gravimeter, thermosalinometer, bathythermograph
- DGPS, Ultra-short Base

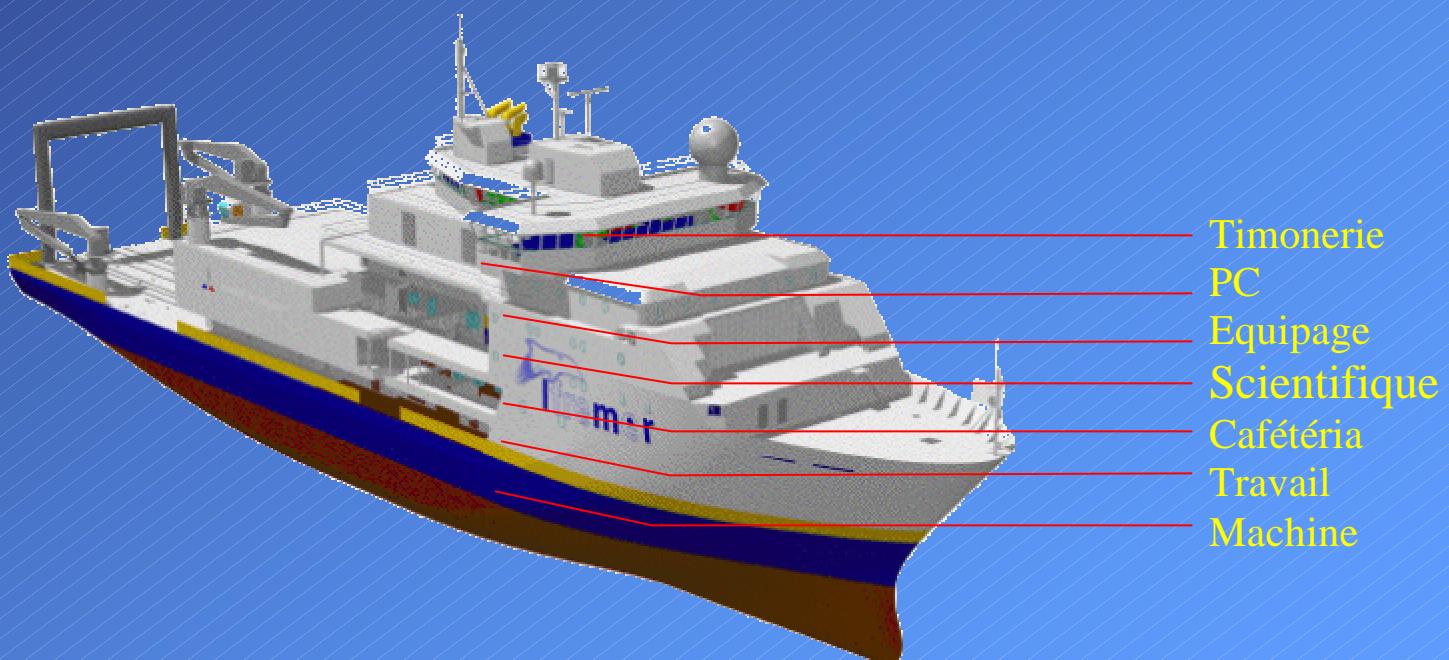


N/O *Pourquoi pas ?*

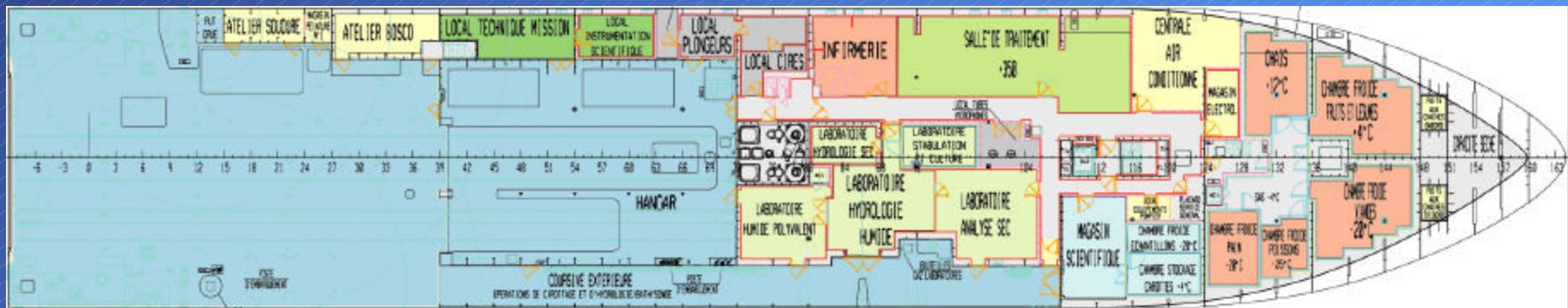
Scientific premises



- More than 950 m² of scientific premises, including :
 - Laboratories (122 m²), one hangar (270 m²), post-processing room (75 m²) on working deck
 - Scientific PC (115 m²), laboratories (68 m²), conference room (65 m²) on upper Decks



Working deck scientific premises



Pont &
mise en œuvre engins

Stockage mission

Local technique mission

Local travail mission

Laboratoire

Conduite navire

Restauration & détente

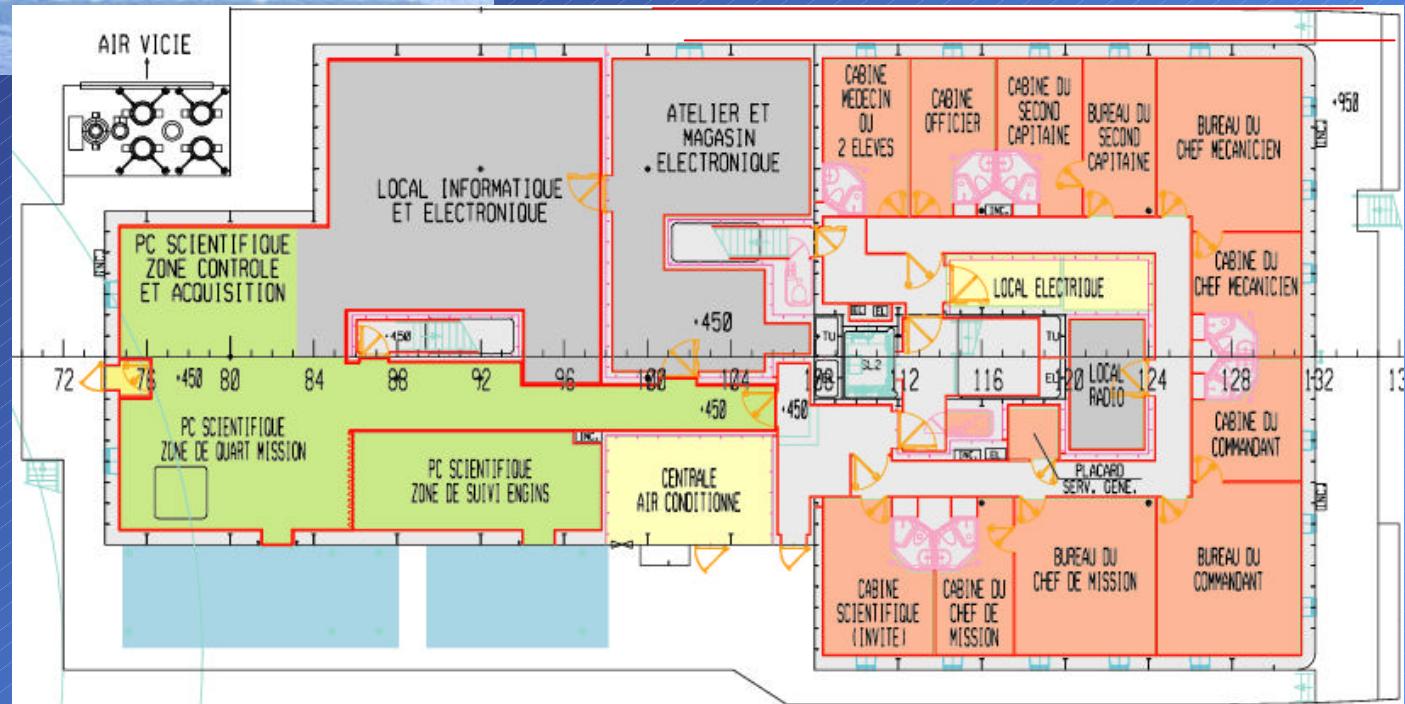
Local technique spécialisé

Working deck / post-processing room





Mission center Deck



Pont &
mise en œuvre engins
Stockage mission

Local technique mission
Local travail mission
Laboratoire

Conduite navire
Restauration & détente
Local technique spécialisé



N/O Pourquoi pas ?

Mission center



Mission center



Main systems to deploy



☞ Possibility to operate successively two systems (Victor or Nautile class) + deep sea coring with minimum reconfiguration delay

Nautile

Nautile submersible was builded in 1985



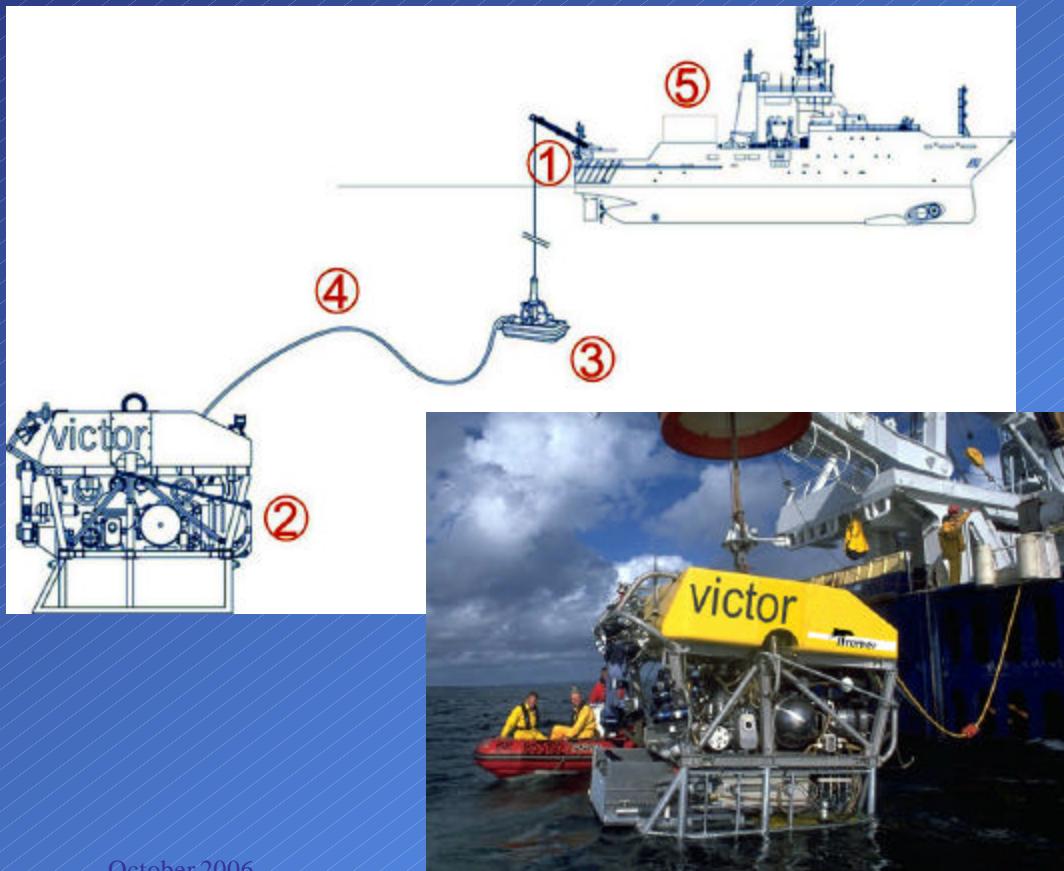
- Depth : 6000 m
- Weight : 19,5 t
- Length : 8 m
- Width : 2,70 m
- Height : 3,81 m
- Crew : 2 pilots + 1 scientist
- Inner diameter : 2,10 m
- Autonomy (at depth) : 5 h
- Safety : autonomy of 120 h



Victor 6000

Victor 6000 is a ROV that can dive up to 6000m depth. The first scientific campaign was in 1999.

- Two body concept
- Depth : 6000 m
- Weight : 4.6 t
- Length : 3,15 m
- Width : 2,70 m
- Height : 1,80 m + toolsled (0.6m)





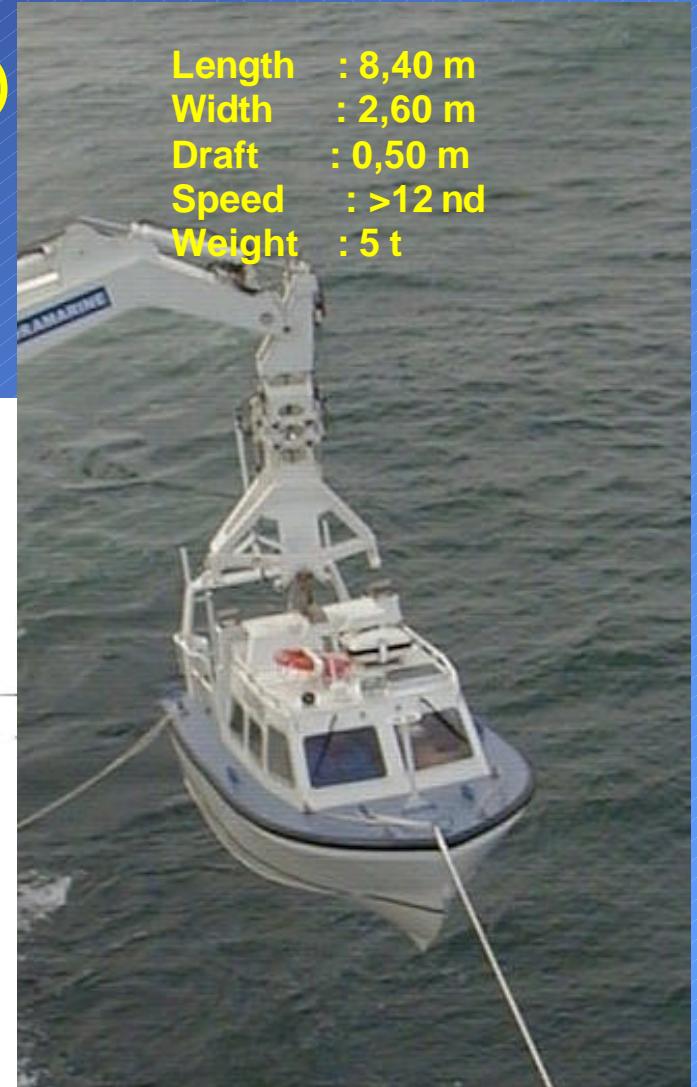
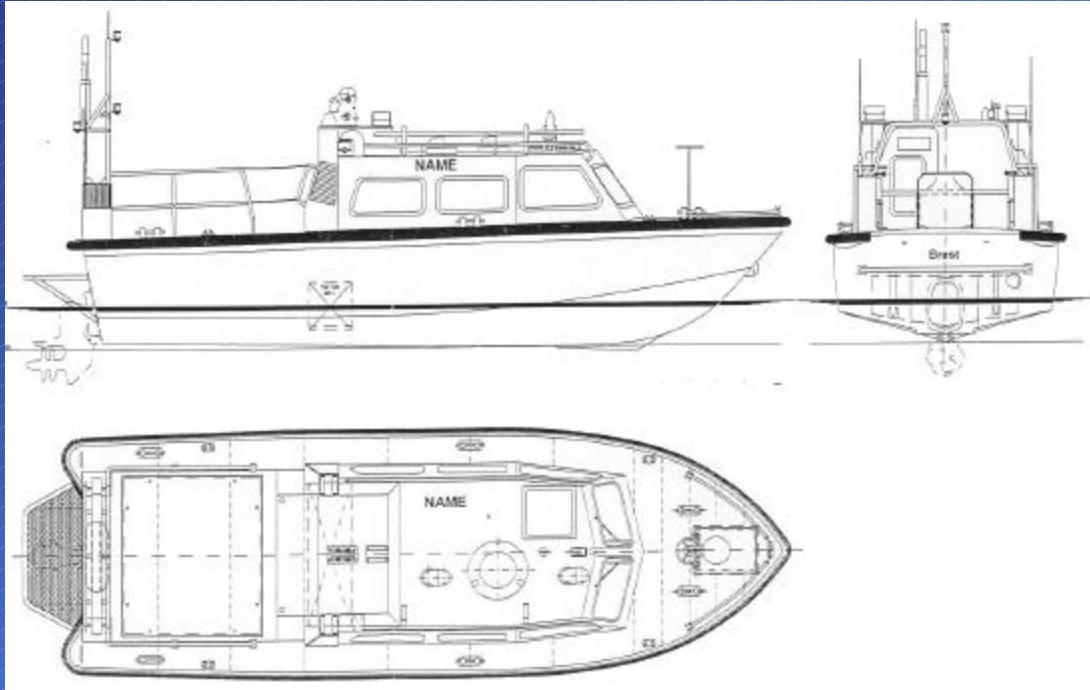
Sea bottom station « Penfeld » for sediment physical properties characterisation

- Main characteristics :
- Length : 2,2 m
- Width : 3.95 m
- Height : 5.2 m
- Weight in air : 6 t
- Weight in water : 4,5 t



N/O Pourquoi pas ?

Hydrographic motorboat (Shom)



**Length : 8,40 m
Width : 2,60 m
Draft : 0,50 m
Speed : >12 nd
Weight : 5 t**

French Navy submarine rescue system (NewtSuit)



The system is composed of :

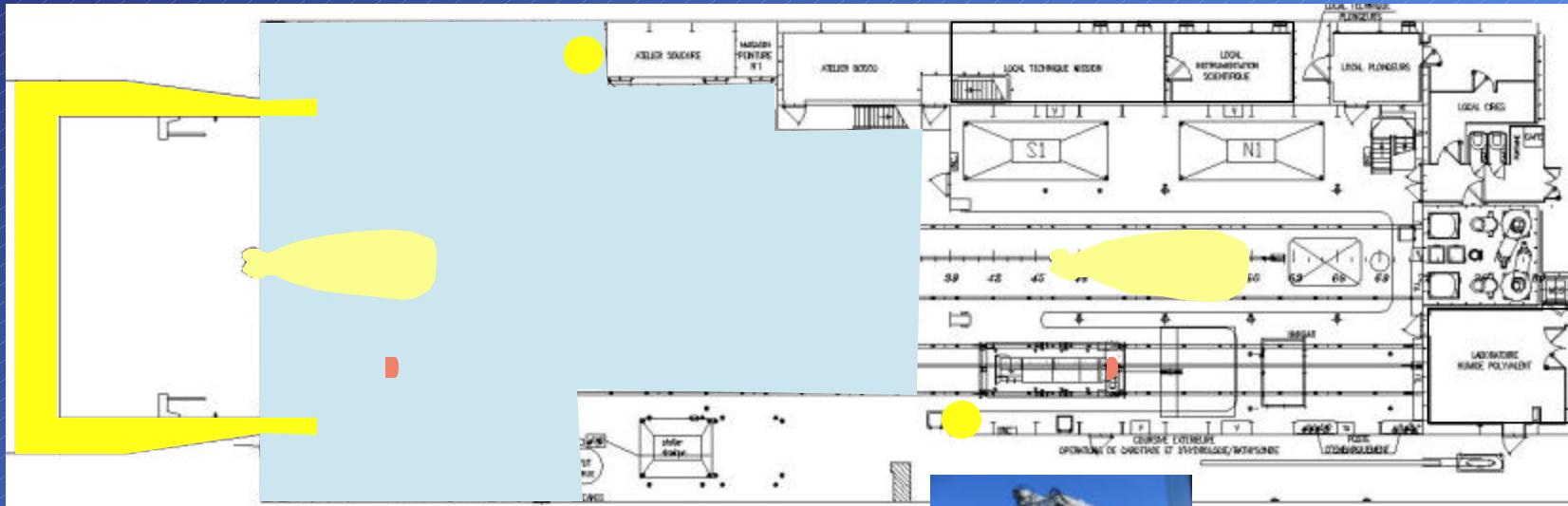
- The ADS (diving suit)
- The observation ROV
- The ventilation system

Pourquoi pas ? handling areas





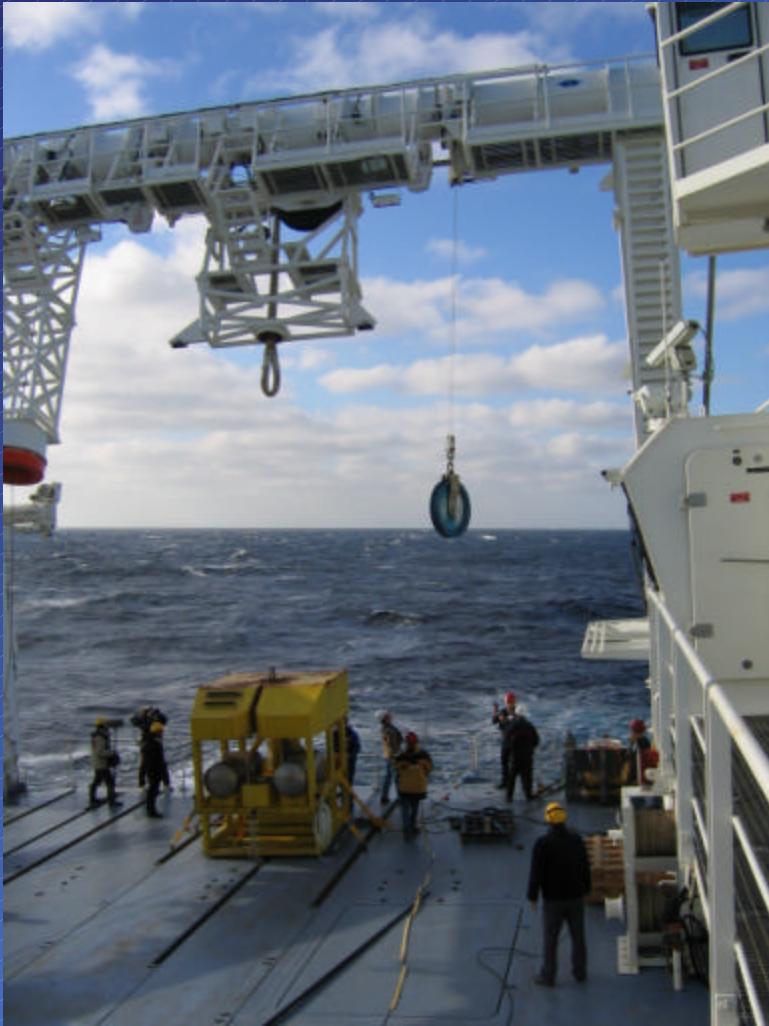
Handling areas



Stern A frame

- SWL 22t – ALS BV mark
 - 12.6 m clearance
 - 2 handling interfaces
 - 2 winches 10t for ROV L/R
 - 1 winch 22t for *Nautilus*
 - 6 deep sea pulley points
 - 4 winches for deep sea pulley mounting
- ☞ 10t winches with:
- Constant tension (150m/mn at 1t)
 - Shock absorber (full range)





Oceanographic crane

↗ Designed for Victor and Penfeld launch and recovery

- SWL 8t at 13m – 5t at 15m
- Dampened docking head
- 1 winch 8t
- 1 winch 2t (textile rope)
- 1 constant tension winch 250kg

↗ 8t winch with :

- Constant tension (150m/mn at 1t)
- Shock absorber (auto adjusting)



Telescopic boom

☞ Designed for deep sea cable handling (coring, Victor, Penfeld,...)

- SWL 15t on line
- Kinematics : -2.5m to 4m
- 1 winch 8t
- 1 winch 2t
- 1 winch 2t on trolley



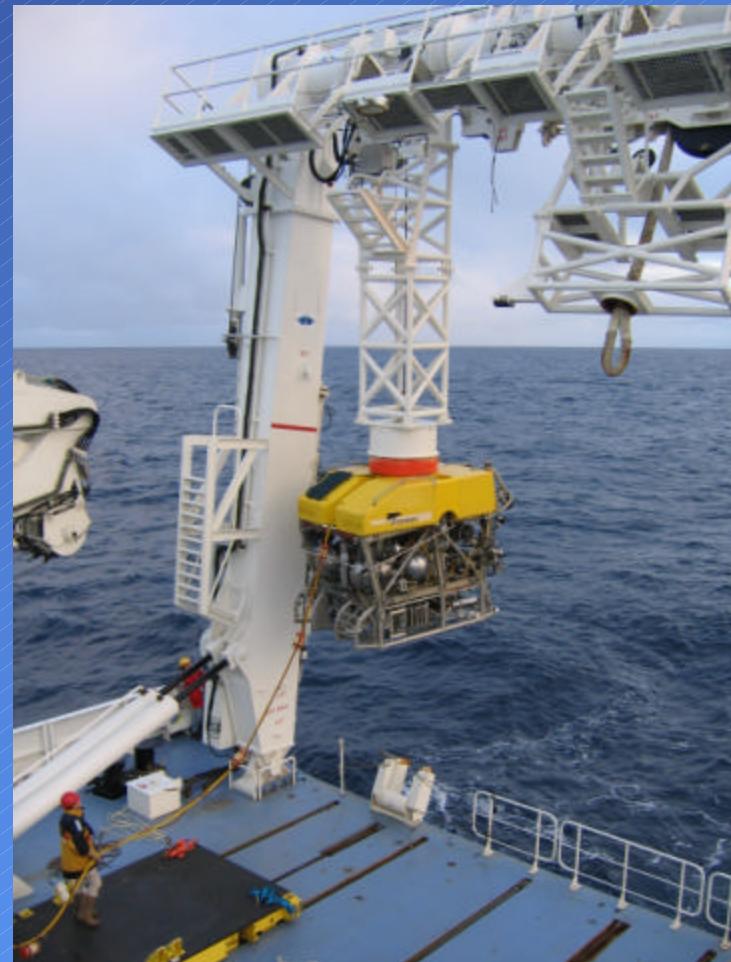
- Calypso coring is feasible up to 40m, Ø 140mm

Deep sea winches



- ☞ 2 traction winches
- ☞ 4 storage drums:
 - 1 Victor cable (20,7 mm)
 - 1 steel cable (21,5 mm)
 - 1 aramide cable
 - 1 other
- ☞ And two outlets on deck

Deployment by the stern



Victor deployment by the side





N/O *Pourquoi pas ?*



See you soon onboard...

© IFREMER / Alain MASSOL



N/O *Pourquoi pas ?*

Accommodations



'Restaurant' Deck



Pont &
mise en œuvre engins

Stockage mission

Local technique mission

Local travail mission

Laboratoire

Conduite navire

Restauration & détente

Local technique spécialisé

‘Restaurant’ Deck / Cafeteria



'Restaurant' Deck / Lounges



Scientific headquarters Decks



Pont &
mise en œuvre engins

Stockage mission

Local technique mission

Local travail mission

Laboratoire

Conduite navire

Restauration & détente

Local technique spécialisé

Scientific headquarters Decks / Conference room



Scientific headquarters Decks / Double cabins



Main systems to deploy

- ☞ Different kind of systems to operate
 - Manned submersible (Nautilus)
 - Remotely operated vehicle (Victor, Ulysse)
 - Towed vehicles (Sar, Sonal, Sea Soar)
 - Sea bottom stations (Penfeld)
 - Kulemborg coring (40m, Ø 140mm)
 - Hydrographic motorboat
- ☞ Possibility to operate successively two systems (Victor or Nautilus class) + deep sea coring with minimum reconfiguration delay



N/O Pourquoi pas ?

