



UN OCÉANO, UN FUTURO

1914-2014  
**I CENTENARIO**  
INSTITUTO ESPAÑOL  
DE OCEANOGRAFÍA



**ERVO 2015**

# ***The IEO operations at sea: a dual fleet approach and the new regional vessels experience***

# A dual fleet operation

## Fisheries administration fleet

- *B/O Vizconde de Eza*
- *B/O Emma Bardán*
- *B/O Miguel Oliver*

*IEO only DCR cruises*

## IEO own fleet

- *B/O Cornide de Saavedra (R)*
- *B/O Francisco P. Navarro (MLU)*
- *B/O Ramón Margalef*
- *B/O Ángeles Alvariño*
- *B/O José M<sup>a</sup> Navaz*
- *B/O Lura*

R: retired 2013

MLU: Mid life updrade 2013

# ***B/O Vizconde de Eza***

## **Vessel data**

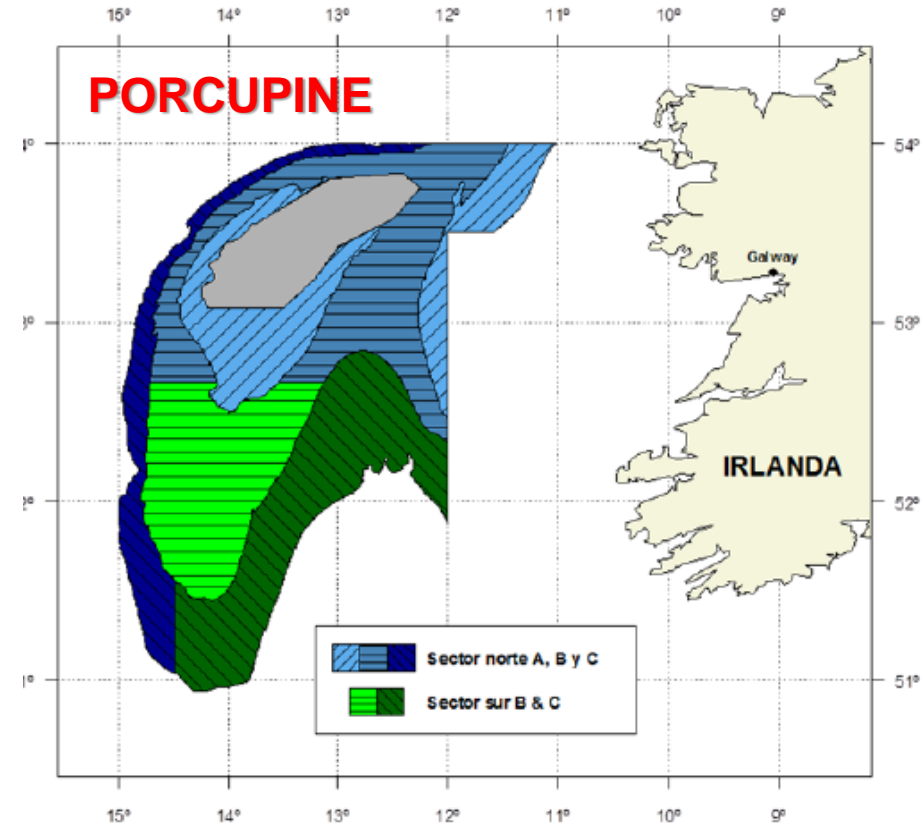
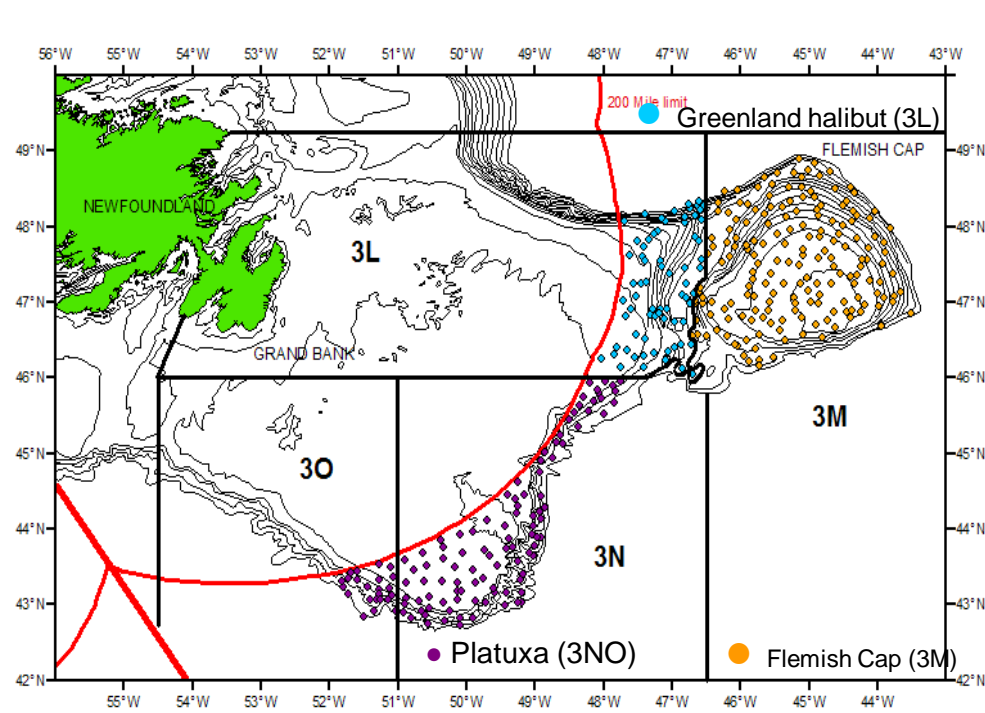
- Length 52,64 m
- Width 13 m
- Draught 4,5 m
- 1400 TRB
- 2400 CV
- Crew: 19
- Sci. party: 16

## **Vessel activity**

- 3 cruises in NAFO area
  - 90 cruise days
- 1 Porcupine cruise
  - 30 days

# B/O Vizconde de Eza

## Bottom trawling



# ***B/O Miguel Oliver***

## **Vessel data**

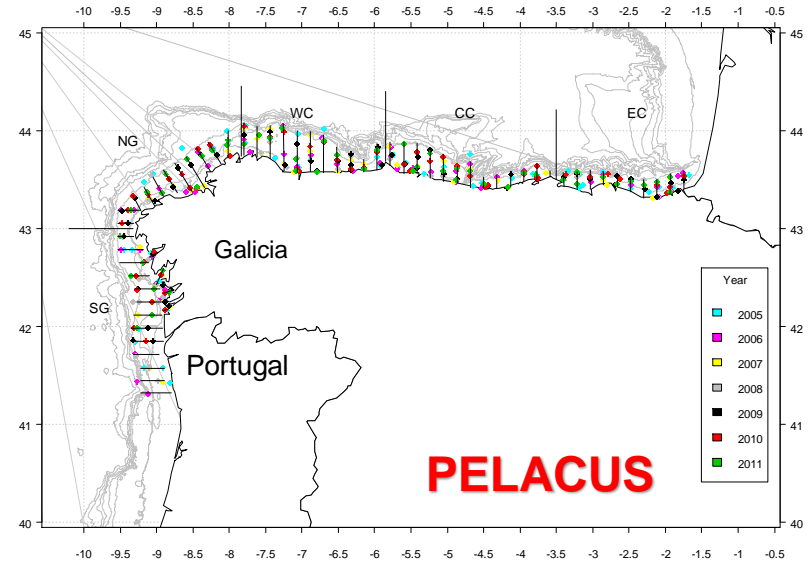
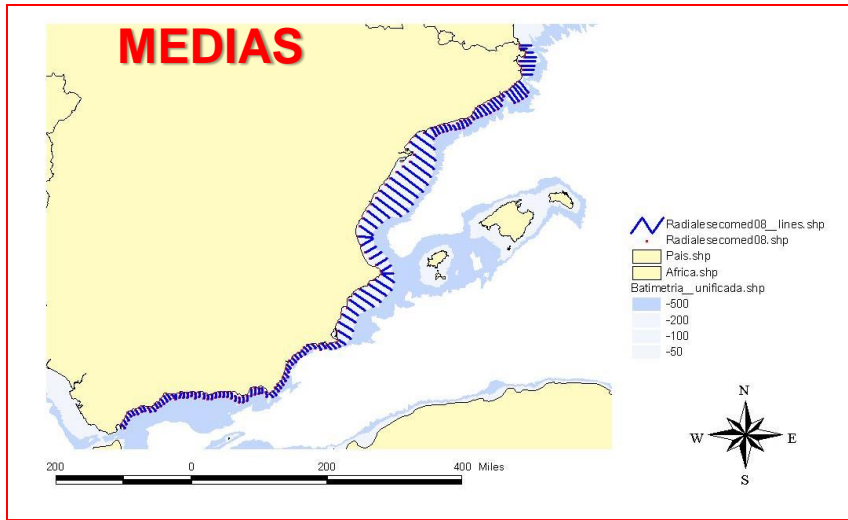
- Length 70 m
- Width 14,4 m
- Draught 5,5 m
- 2495GT
- 2000 kW
- Crew: 19
- Sci. party: 25

## **Vessel activity**

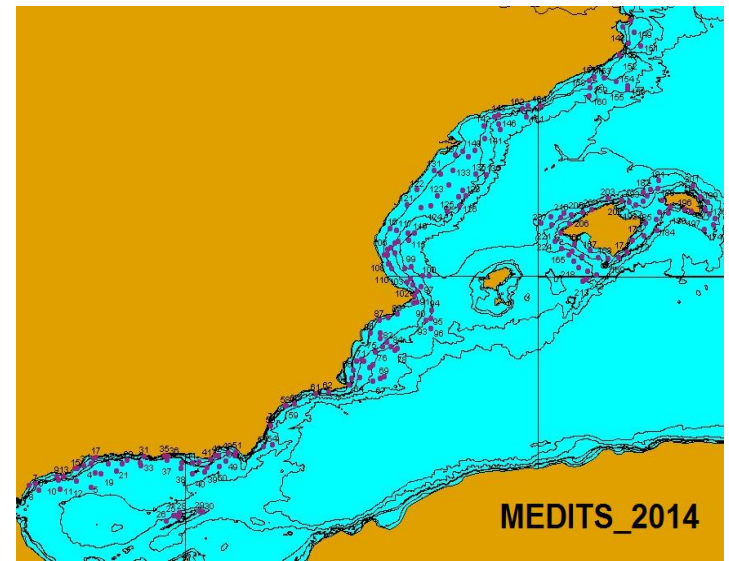
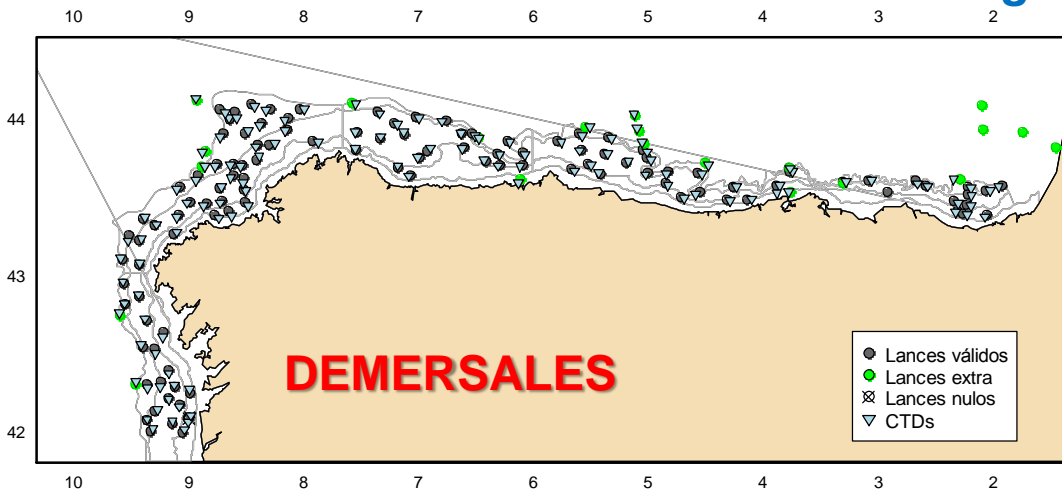
- 9 cruises every year
- > 200 cruise days (8,5 months)
- Acoustic and pelagic trawl
  - PELACUS
  - MEDIAS
  - ECOCÁDIZ
- Bottom trawling
  - ARSA (2 cruises)
  - MEDITS (3 cruises)
  - DEMERSALES

# B/O MIGUEL OLIVER

## Acoustic and pelagic trawling



## Bottom trawling



# IEO present fleet



<b>Vessel</b>	<b>Length</b>	<b>Width</b>	<b>Construction</b>	<b>Ex. life</b>
<i>Cornide Saavedra</i>	<b>66,7</b>	<b>11,25</b>	<b>1972</b>	<b>2014</b>
<i>F.P. Navarro</i>	<b>30.5</b>	<b>7.4</b>	<b>1987</b>	<b>2025</b>
<i>Ramón Margalef</i>	<b>46,8</b>	<b>10,5</b>	<b>2011</b>	<b>2031</b>
<i>Ángeles Alvariño</i>	<b>46,8</b>	<b>10,5</b>	<b>2012</b>	<b>2032</b>
<i>J.M. Navaz</i>	<b>15.8</b>	<b>4.1</b>	<b>1984</b>	<b>2025</b>
<i>Lura</i>	<b>14.3</b>	<b>4.0</b>	<b>1981</b>	<b>2020</b>

# Regional vessels characteristics

- Length 46,8 m
- Width 10,5 m
- Draught 4 m
- 988 GT
- 3 x 846 kW (1500 rpm)
- 1 x 200 kW (Harbor set)
- 2 x DC 900 kW
- 5 blades fixed pitch propeller
- 2 thrusters



- Bow: 200 kW
- Aft: 160 kW

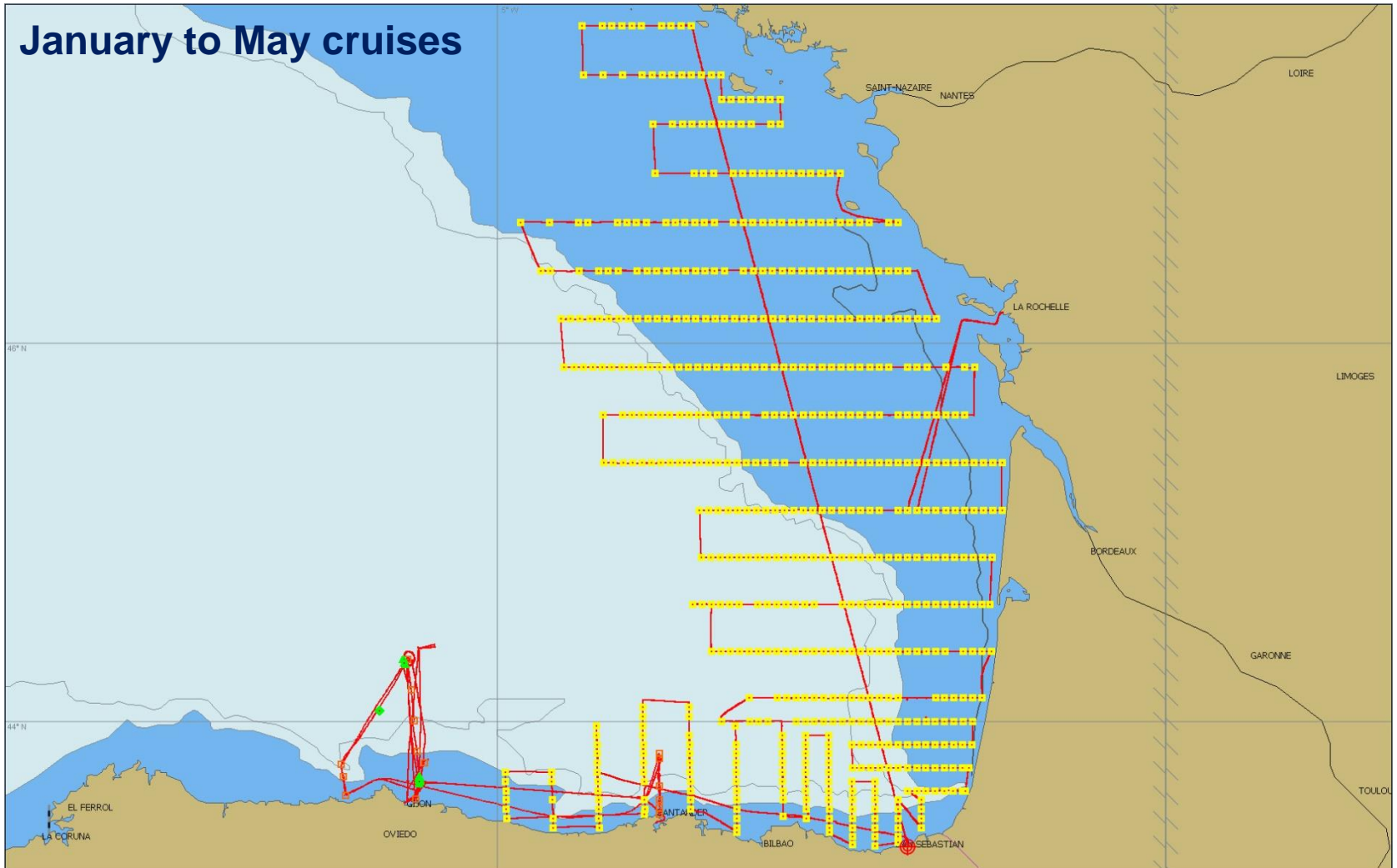


- Drop keel: 2,5 m
- Gondola: 0,9 m

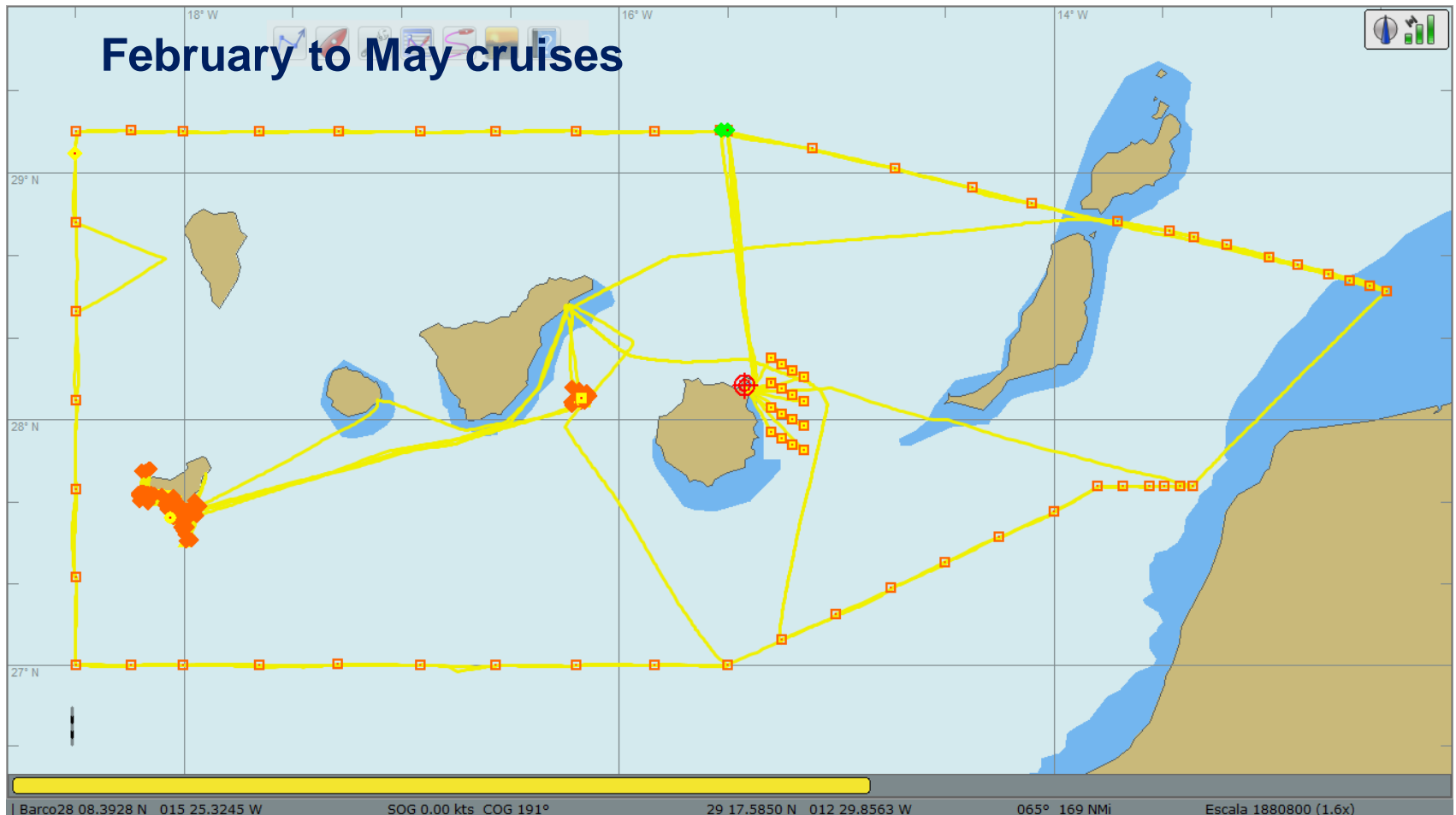




# ***B/O Ramón Margalef***



# *B/O Ángeles Alvariño*



# A comparison:

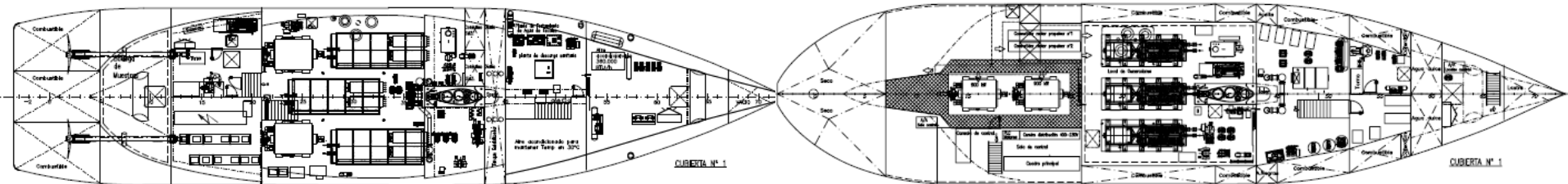
## *Ramón Margalef vs Ángeles Alvariño*

### Same

- Diesel engines
- DC engines
- Deck arrangement
- Crew
- Scientific equipment
- DP capability

### Different

- Engines arrangement
- Two shafts (RM) vs One (AA)
- Scientific party:
  - RM: 9 (+up to 3 more)
  - AA: 13 scientist
- Operational endurance:
  - RM 12 days
  - AA >20 days



# R/V Ramón Margalef

The **SILENT SHIP** Card.

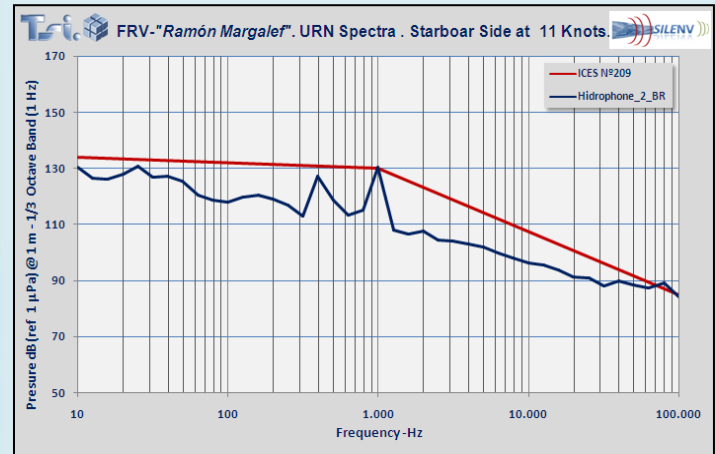


2011



Astilleros ARMÓN

"Ramon Margalef"



## N&V Full Signature

**VIBRATION:** Maximum value **0,7 mm/s-rms**

**NOISE:** Cabins: **37,6 dB(A)**. Machinery Room: **87 dB(A)**.

**NOISE RADIATED TO THE HARBOUR:** In compliance with Directive 2002/49/EC

**UNDERWATER RADIATED NOISE:** In compliance with ICES Nº 209



# R/V Ángeles Alvariño

The **SILENT SHIP** Card.



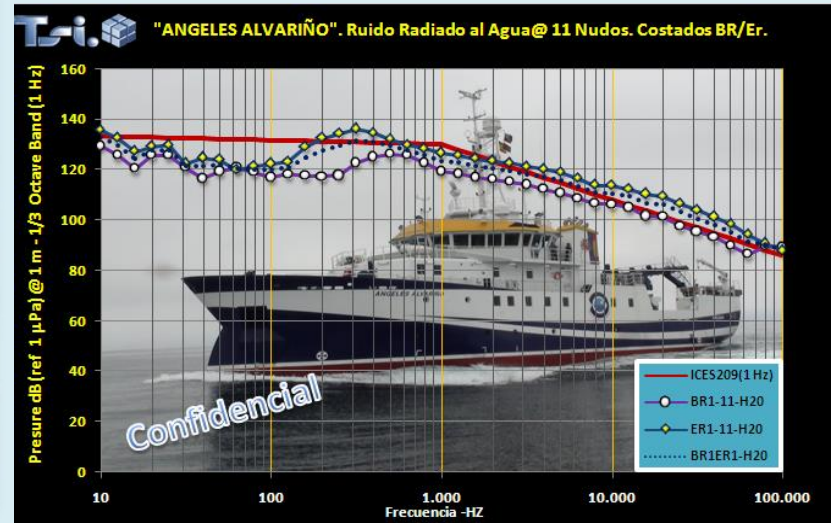
"Angeles Alvariño"



2012



Astilleros ARMÓN



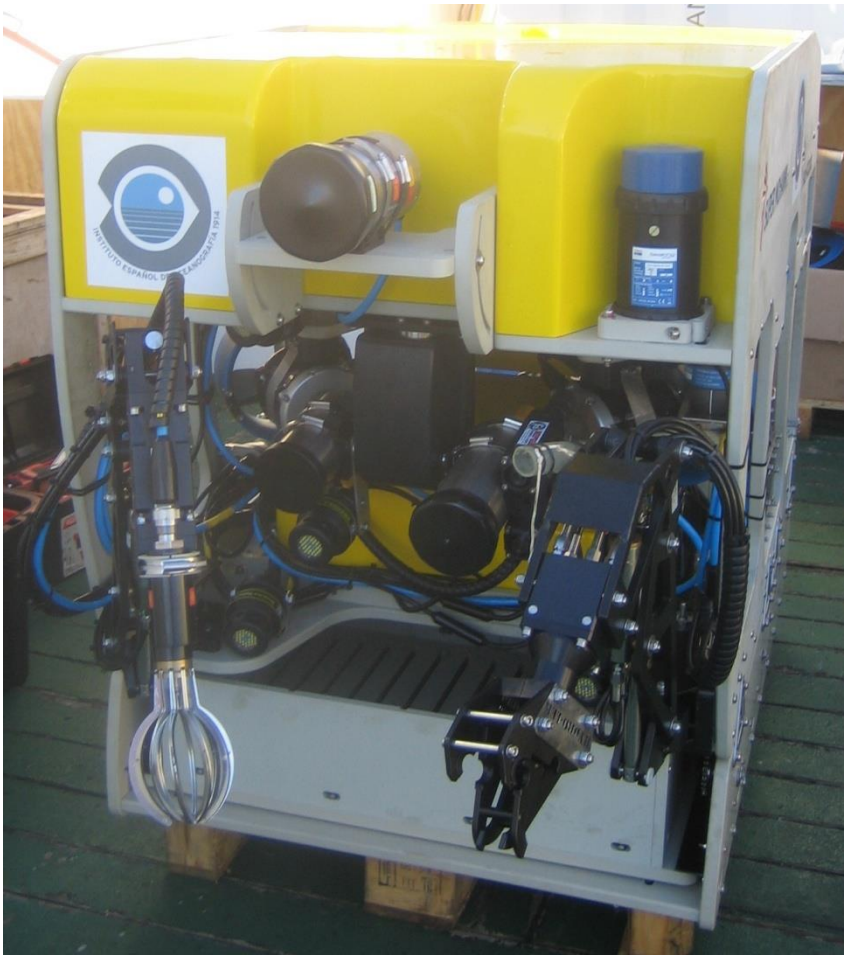
**VIBRATION:** Maximum value **0,83 mm/s-rms**.

**NOISE:** Cabins: **50,1-53,3 dB(A)**. Machinery Room: **86,9-107,2dB(A)**.

**UNDERWATER RADIATED NOISE:** In compliance with ICES Nº 209.

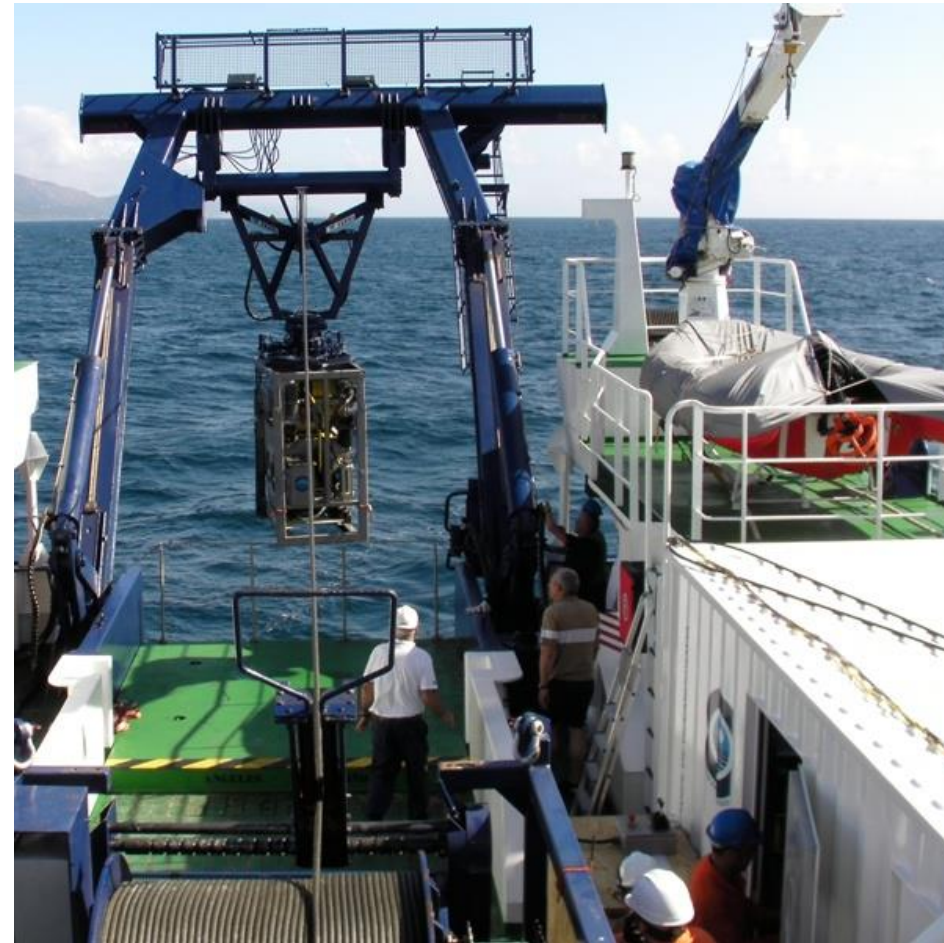


# Liropus 2000



- Super Mohawk II
- Rated 2.000 m WD
- 3 cameras:
  - HD
  - Pal color
  - B&W high luminosity
- Two arms
- 20 kg pay load
- 2 operational modes
  - LARS with TMS: 2000 m WD
  - Free swimming: 350 m WD

# LIROPUS aft operation





# Free swimming operation



- More flexible
- Starboard operation through the crane. No LARS
- Shallower 350 m WD



# Thank you

