

Activities with RV Zeeleeuw 2001-2012

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Flanders Marine Institute

Operational Capacity Zeeleeuw

Purpose build RV Belgica was operational and accesable for Belgian scientists since 1985.

RV Zeeleeuw (former pilot tender) available since 2001
was less capable as a research platform

Yet

- 150 days/year – 1200hrs at sea

- 840 scientists/students (population of 1500)

- 17 science projects

- 14 research groups (population of 100)

- 25 educational cruises/trips

Operational Capacity Zeeleeuw

Ship was available every working day (0745-1600)

10 crew & 20 scientists : daytrips max 10h

If >12h

13 crew & 20 scientists

Open to

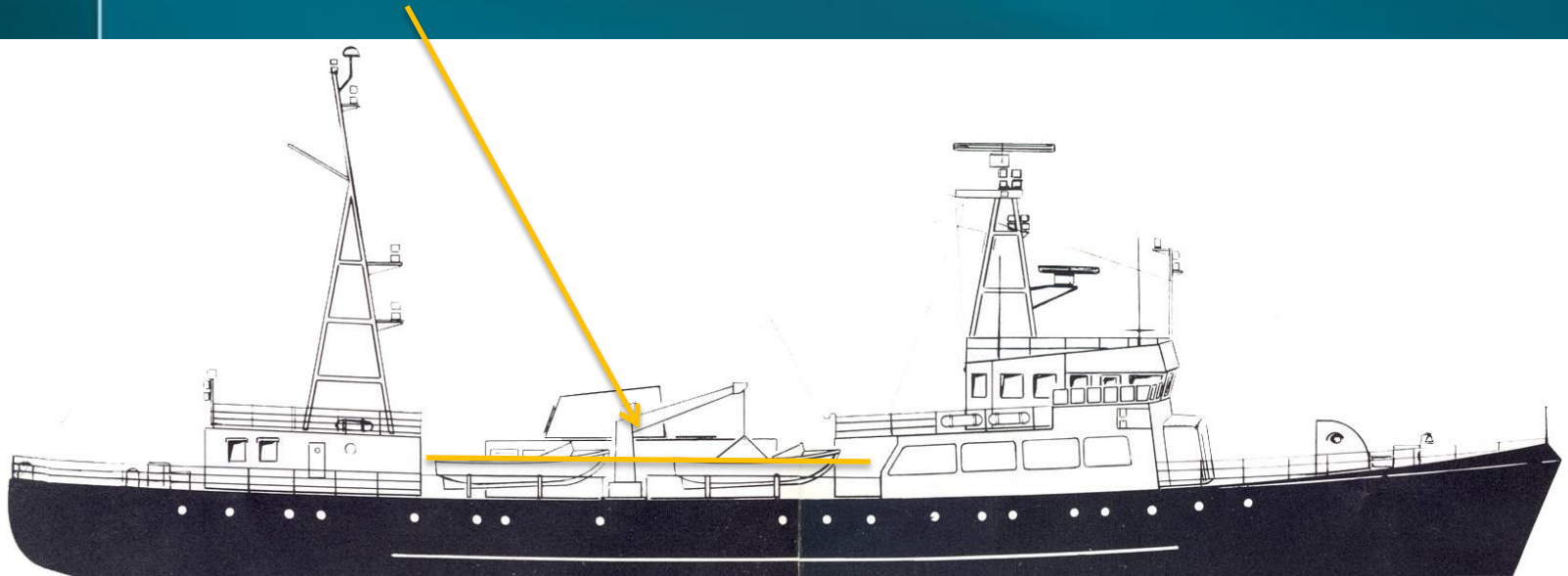
- Marine Academic Research (institutes & universities)
- Student/educational cruises
- Educational trips with children (10-12yrs) & youngsters (16-18yrs)

Yearly budget : approx. 800k€

Operational Capacity Zeeleeuw

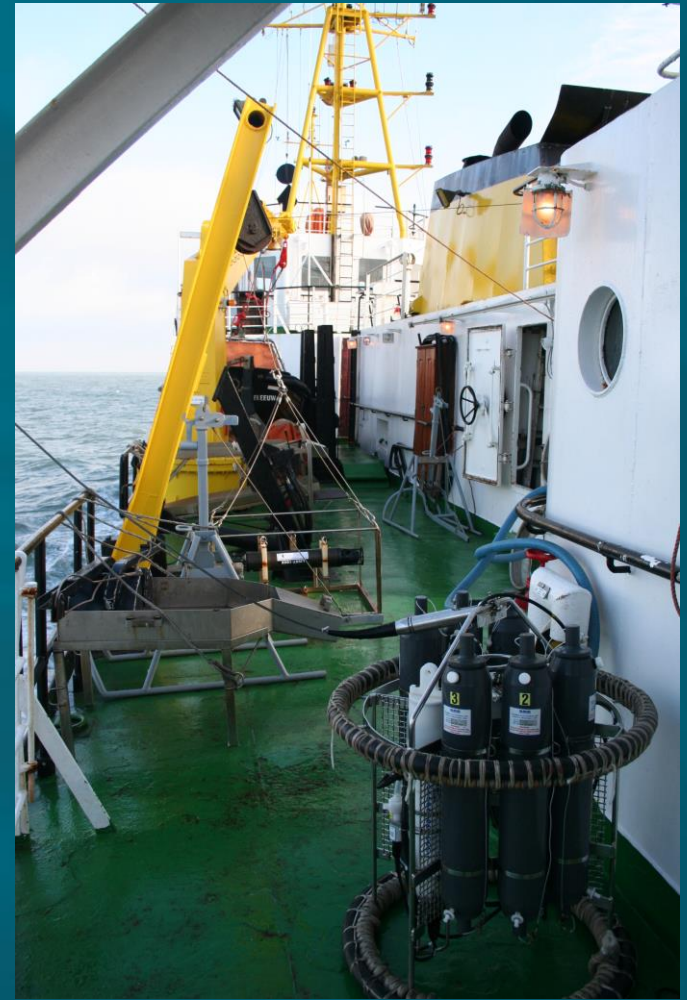
Workspaces onboard

Main deck PS & SB



Operational Capacity Zeeleeuw

- Science areas : main deck SB & PS



Operational Capacity Zeeleeuw

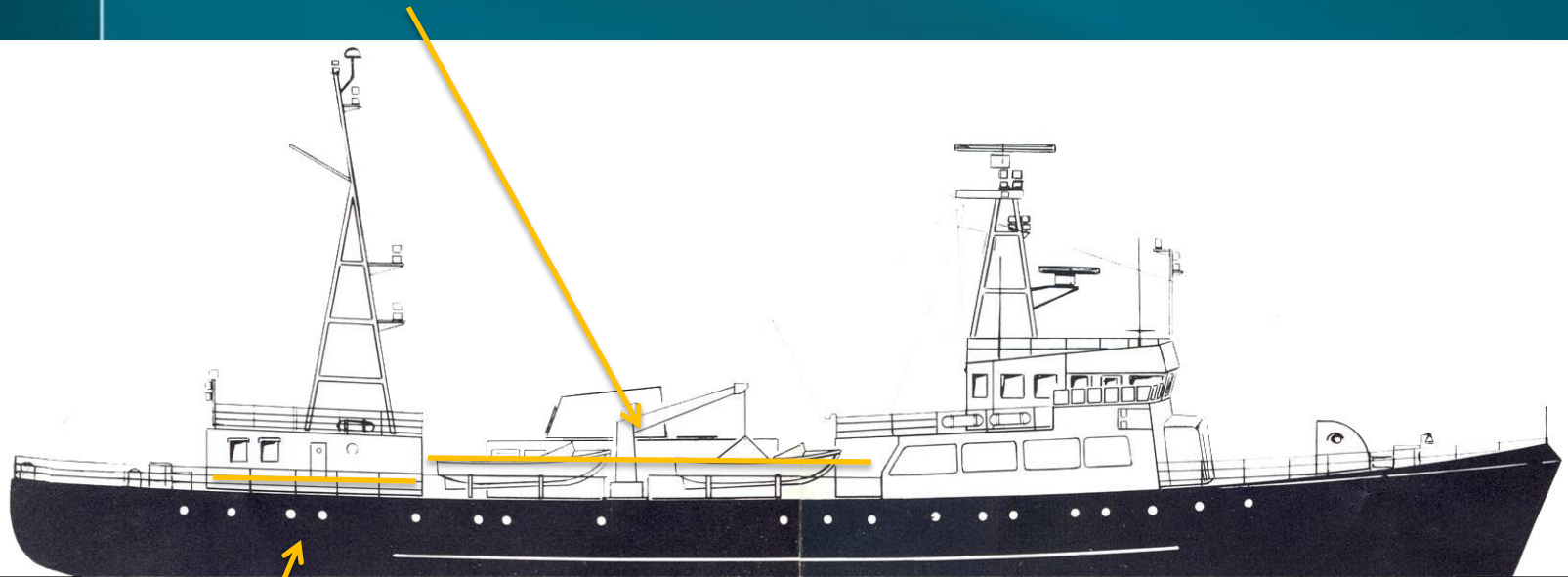
- Science areas : main deck PS



Operational Capacity Zeeleeuw

Workspaces onboard

Main deck PS & SB



Labs

Operational Capacity Zeeleeuw

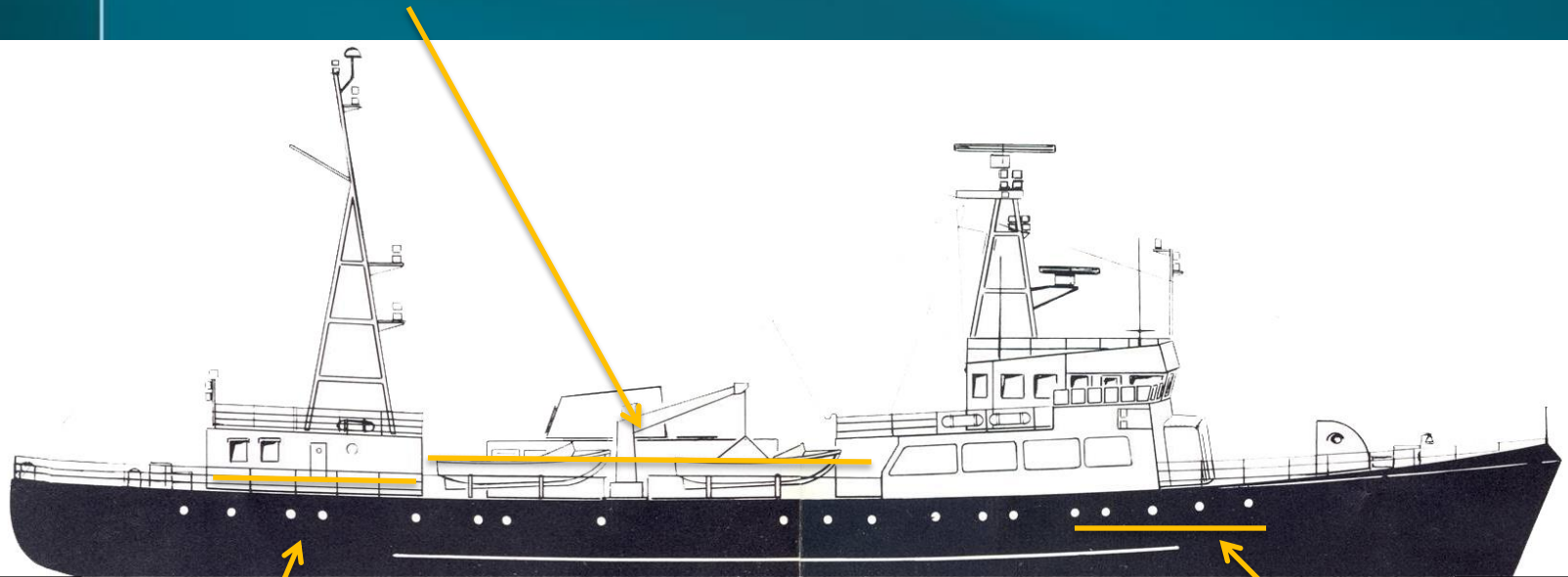
- Science areas : labs



Operational Capacity Zeeleeuw

Workspaces onboard

Main deck PS & SB



Labs

"Saloon"

Operational Capacity Zeeleeuw

- Science areas : “saloon”

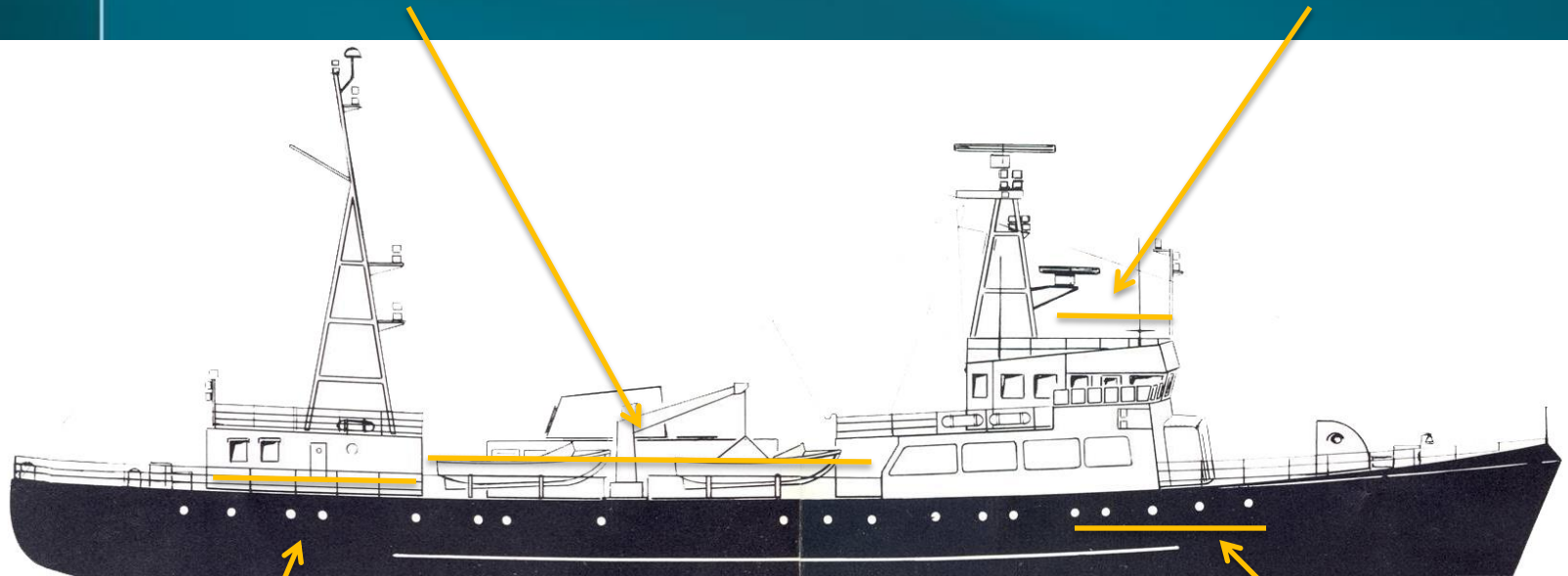


Operational Capacity Zeeleeuw

Workspaces onboard

Main deck PS & SB

Topdeck (Monkeybridge)

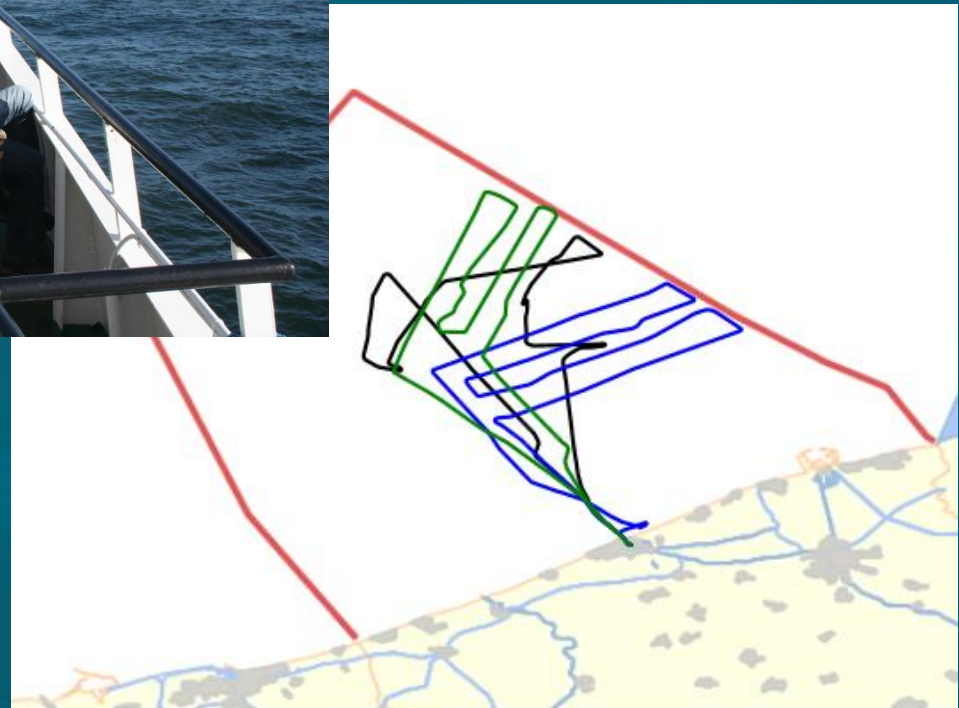


Labs

"Saloon"

Operational Capacity Zeeleeuw

- Sea bird / sea mammal monitoring



Operational Capacity Zeeleeuw

- Sediment/Bottom sampling Van Veen grab



Operational Capacity Zeeleeuw

- Sediment/Bottom sampling Reineck boxcorer



Operational Capacity Zeeleeuw

- Sediment/Bottom sampling Hamon grab / multicorer



Operational Capacity Zeeleeuw

- Plankton



Operational Capacity Zeeleeuw

Fishing Beam trawl / Otter trawl



Operational Capacity Zeeleeuw

Pelagic Fishing



Operational Capacity Zeeleeuw

- Physical oceanography : **T**hermo**S**alino**G**raph (SBE21)



Pumped system installed on the ship
Takes water from approx. 3m depth
Flow rate should $>0.8 < 1.2$ l/sec
Sampling interval 5sec (minimum)

Operational Capacity Zeeleeuw

- Physical oceanography : CTD
 - Conductivity, Temperature & Depth
 - + auxilliary sensors (Turbidity, Chla, O₂, Light, PAR, ...)



Operational Capacity Zeeleeuw

- Physical oceanography : Water Sampling
- Niskin & Go-Flo Bottles



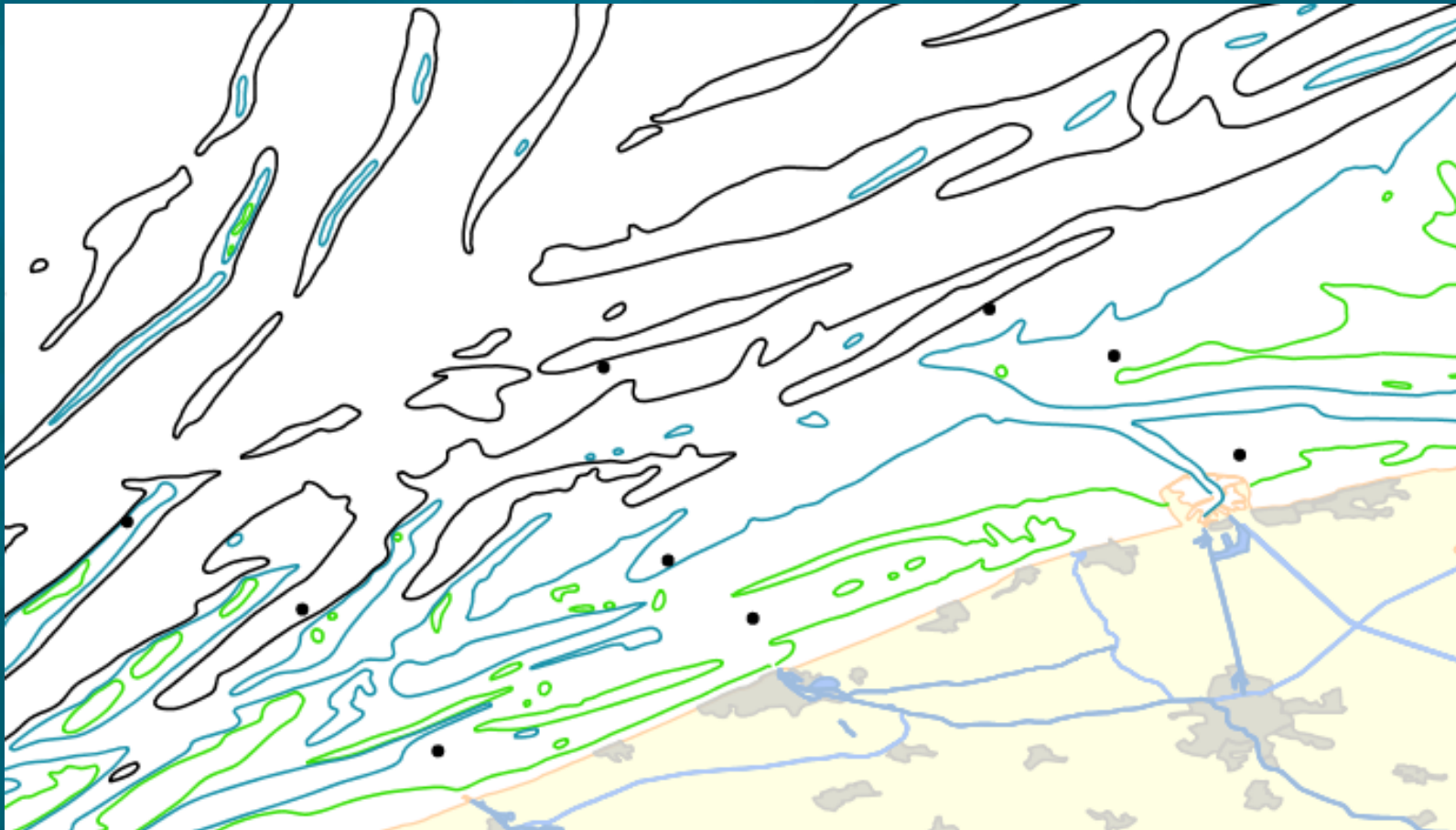
Operational Capacity Zeeleeuw

- Physical oceanography : CTD & Carousel



Operational Capacity Zeeleeuw

- Monthly monitoring



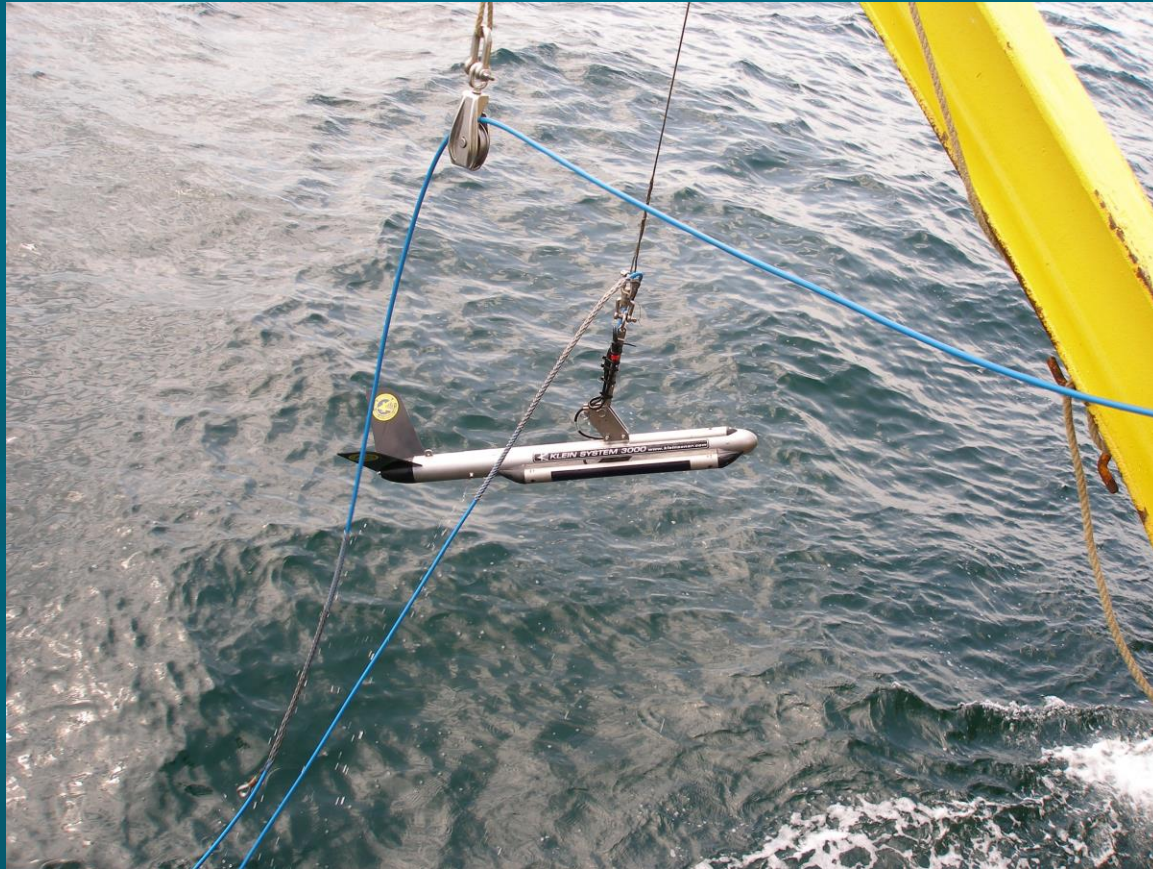
Operational Capacity Zeeleeuw

Specialities Acoustic Doppler Current Profilers ADCP



Operational Capacity Zeeleeuw

Specialities Side Scan Sonar (SSS)



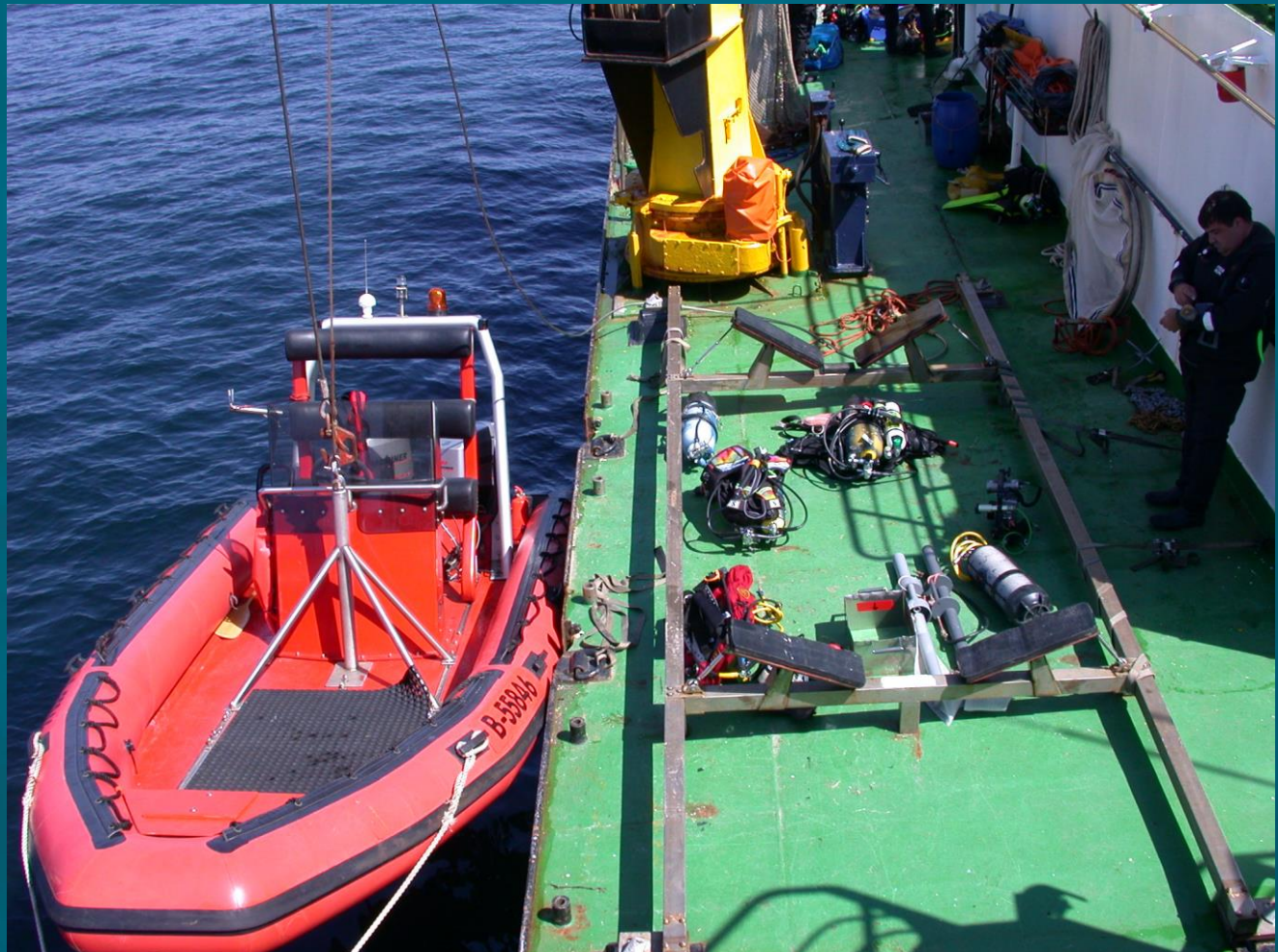
Operational Capacity Zeeleeuw

Specialities Spectroradiometers



Operational Capacity Zeeleeuw

Specialities Diving Operations



Operational Capacity Zeeleeuw

Specialities

air pumps on topdeck (fine dust, aerosols sampling)
pCO₂ measurements

Operational Capacity Zeeleeuw

Constraints

- Echosounder (200 & 33kHz) = 200m & 1500 m reach
- CTD winch profiles 300m wire 1 conductor , 1 ton
- Starboard davit + winch 300m, 2tons
- Portside A-frame + winch 300m, 1ton
- No Heave compensation on winches except for workboats