



**International Research
Ship Operators**



OGS EXPLORA REFIT

Theme 2: RV Builds, Modifications
and Performance

FRANCO COREN



OGS IN PILLS

- NATIONAL INSTITUTE FOR OCEANOGRAPHY AND APPLIED GEOPHYSICS
- MINISTRY OF UNIVERSITY AND RESEARCH
- 4 DEP. : OCEANOGRAPHY, GEOPHYSICS, SEISMOLOGY, INFRASTRUCTURE
- 30 M EURO (16 M - PUBLIC FUNDS 14 M - COMPETITIVE PROJECTS OR SERVICES)
- LOCATED IN TRIESTE



- LAND GEOPHYSICS
- AIRBORNE SURVEY
- OCEANOGRAPHY



M/N OGS EXPLORA



M/N OGS EXPLORA

- Built by: Elsflether Werft A.G., Germany 1973
- Owner: Istituto Nazionale di Oceanografia e di Geofisica Sperimentale – OGS
- Characteristic of service: Scientific or technological research – Unrestricted navigation
- Class: 100-A-1.1-Nav IL ; IAQ-1 ; Ice Class IB
- Material: steel(hull)/aluminium(superstructure)
- Gross Tonnage: 1408 GT
- Overall Length: 72,62 m Moulded Breadth: 11,80 m Moulded Depth: 6,55 m
- Displacement 1845 t

PRESENT STATUS OF ITALIAN RESEARCH FLEET

ITALICA



EXPLORA



MINERVA 1



DALLA PORTA



MEDITERRANEAN

X

X

X

X

SEISMIC CAP.

X

POLAR CAP.

X (up 2017)

X (up 2017)

CARGO CAP.

X

POLAR CODE 2018

EXPLORA ACTIVITIES

- MINISTRY CONTRIBUTION 2 M EURO/YEAR
- AT LEAST 3.5 M EURO/YEAR NEEDS TO MAINTAIN THE SHIP OPERATIVE
- COST OF THE SHIP IN OPERATION 15.000 EURO/DAY
- WITH A DUAL USE WE GAIN THE CAPABILTIY TO PERFORM SELF FINANCED RESEACH ACTIVITY IN THE ORDER OF 70 - 80 DAYS PER YEAR

ANTARCTIC EXPEDITIONS

Built in 1973 in Kiel, Germany



Acquired by OGS in 1987

Eight PNRA antarctic cruises from 1988 to 1997

Mediterranean CROP Project

Chartered to Western Geophysical in 1997

Permanently back to OGS in 2000

Refitting (MBES, SBP, ADCP etc...) in 2002

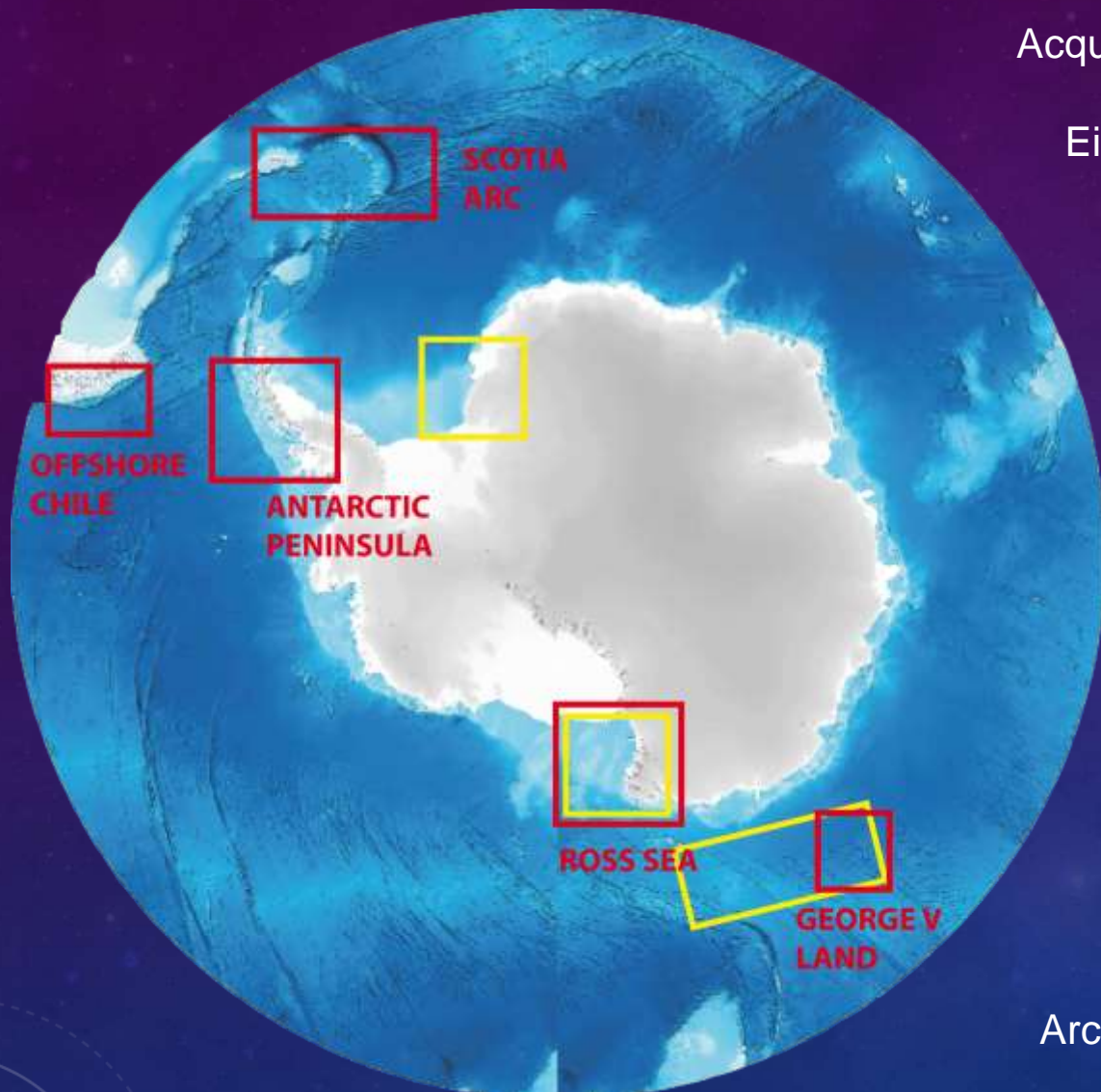
Latest PNRA cruises in 2004 and 2006

First industrial survey in Greenland in 2007

First IPY polar survey (EGLACOM) in 2008

Enters the EUROLLEETS Project in 2010

Arctic cruises for BGR 2013 - 2015



2005-2015 RESEARCH AND SERVICES

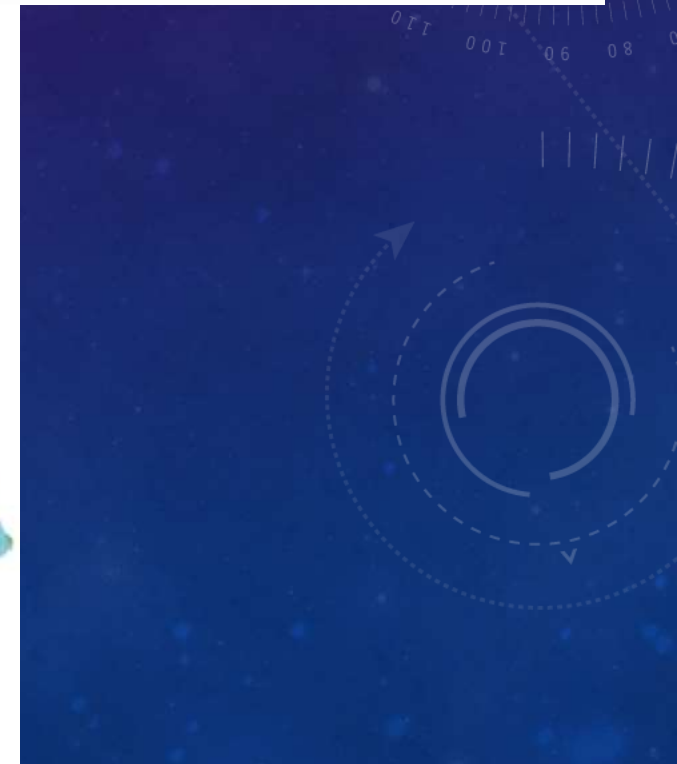
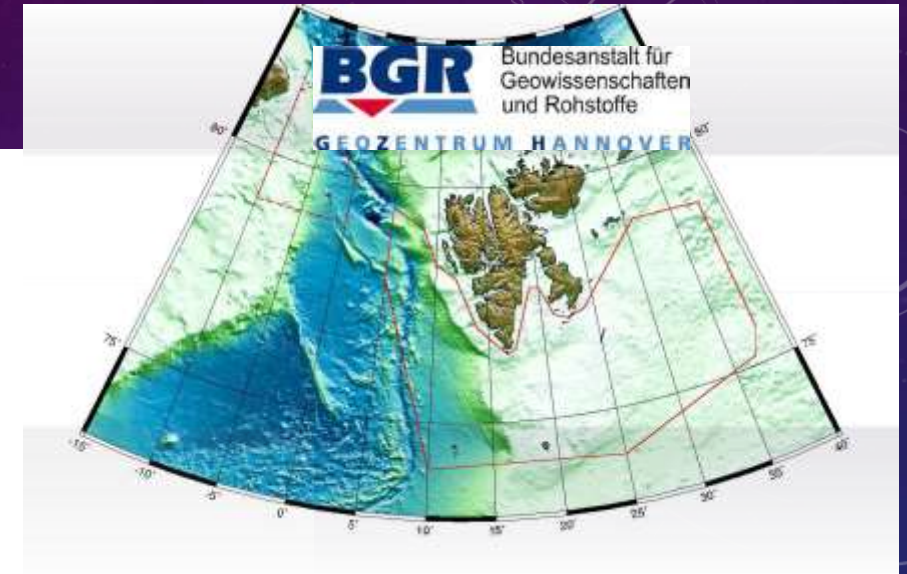
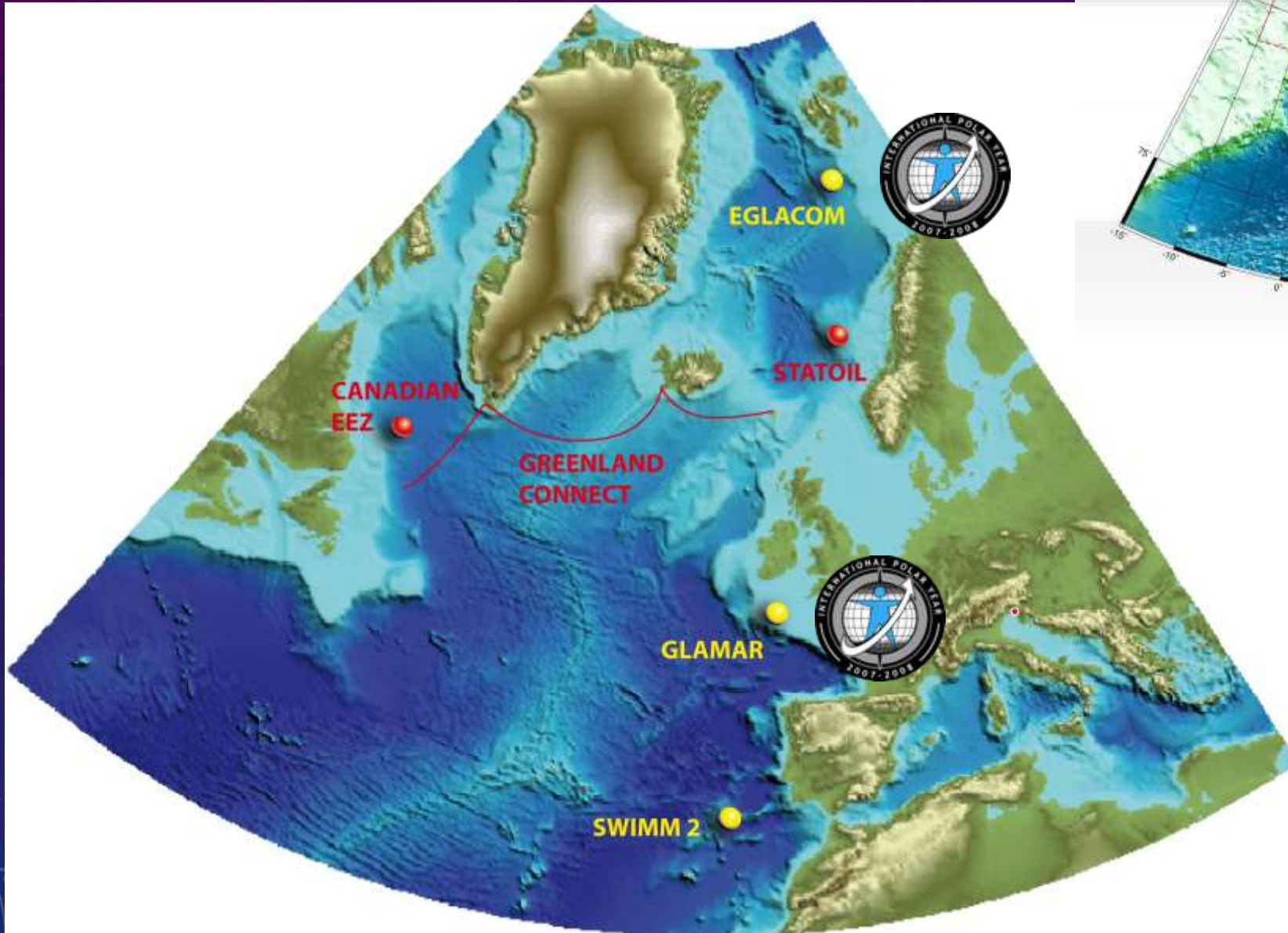


- OGS - MIUR FUNDED RESEARCH PROJECTS
- FP - EXTERNAL FUNDED RESEARCH PROJECTS
- INDUSTRIAL PROJECTS

2005-2015 RESEARCH AND SERVICES



2005-2015 RESEARCH AND SERVICES



REFITTING

- BUDGET 1.75 MILION EURO
- STATUS: SHIP DELIVERY TO THE SHIPYARD ON FEBRUARY 29TH
- COMPANY: GIACALONE SHIPYARD – MAZZARA DEL VALLO
- PRESENTLY ON DRY DOCK IN PALERMO FOR PAINTINGS, HULL RECONDITIONING AND SPECIAL CLASS VISIT

REFITTING TIME

- NEEDED TIME : 223 DAYS
- OFFERED : 132 DAYS
- JUSTIFIED EXTRA TIME $132 + 60 = 197$ DAYS
- DEIVERED WITH A DELAY OF: 36 DAYS

TARGET

- COMPLY WITH THE SPECIAL PURPOSE SHIP REQUIREMENTS
- IMPROVE THE SAFETY STANDARDS
- IMPROVE THE COMFORT ONBOARD
- RE-ARRANGE THE DECKS FACILITIES
- UPGRADE SOME SCIENTIFIC EQUIPMENT



MAJOR ISSUES

- NOTATION - SPECIAL PURPOSE SHIP WAS A CARGO
- INCREASING IN SAFETY
- FROM 12 TO 24 (26 MAX) TECHNICIANS ONBOARD
- STERN RE-DESIGN
- NEW STERN "A" FRAME
- NEW STARBOARD "A" FRAME FOR INST. DEPLOYMENT
- NEW SESIMIC EQUIPMENT

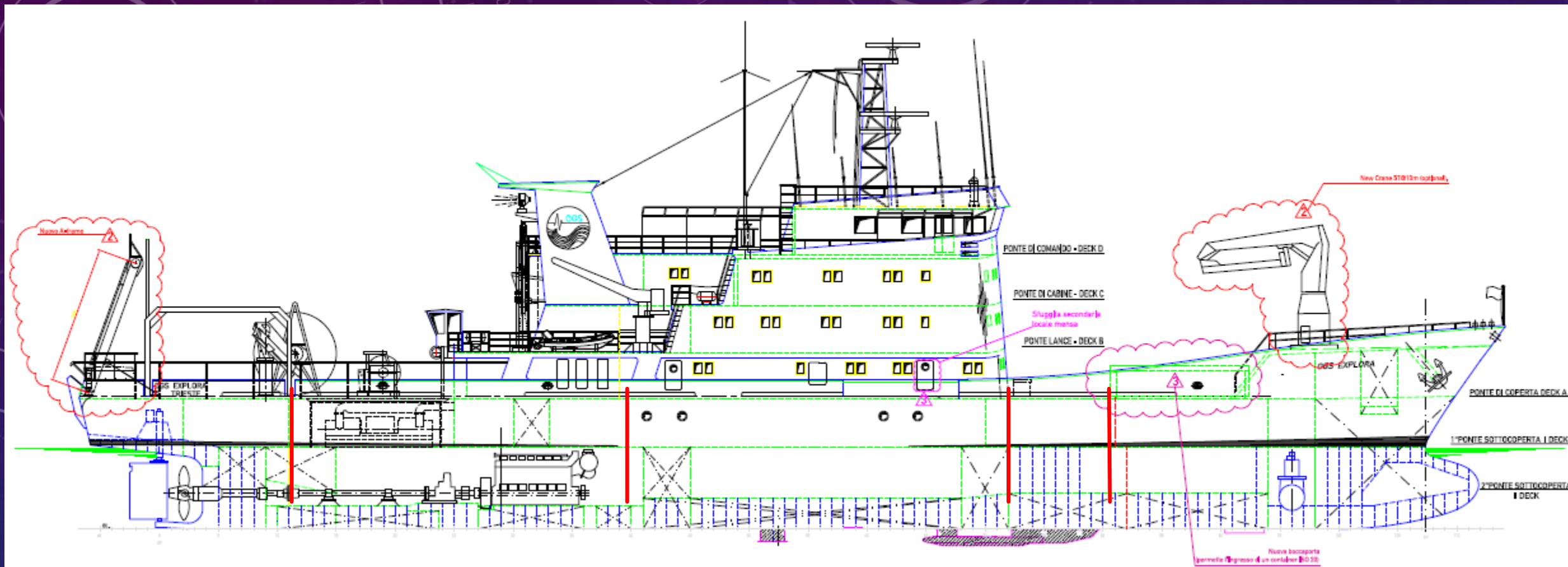
MAIN IMPLICATIONS TO MEET THE COMPLIANCE WITH IMO RES A.535(13) – SPS CODE

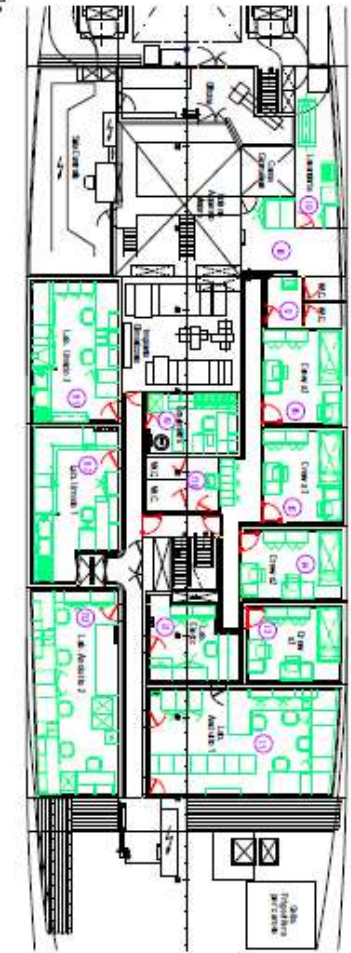
- All linings, insulation and furniture in the accommodation spaces and all insulation in machinery spaces, including funnels will be removed and replaced;
- Electrical, hydraulic and HVAC plants will be rebuilt (according with the new layout);
- Cargo hold will be split in two parts by means of a new watertight steel bulkhead and the capacity plan will be modify in order to satisfy the stability requirement related to SPS code;
- Several safety items will be modify or installed (emergency exit, alarms..).

THE NEW OPERATIONAL CAPABILITY

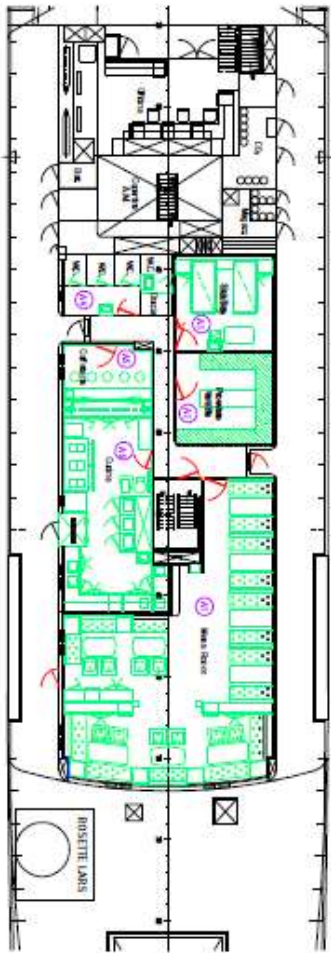
- Possibility to install 5 ISO Container (10 and 20 ft) as labs, workshop and storage in order to increase the multidisciplinary;
- New aft A-frame increasing the clearance in order to handle bigger instruments;
- Development of a new deploy/recovery system for the AirGuns;
- Installation of a new side-frame (winch - control station) suitable for oceanographic purpose (e.g. water sampling, CTD...)
- Removal of the existing derrick crane and installation of a hydraulic crane SWL 50tm

TARGET

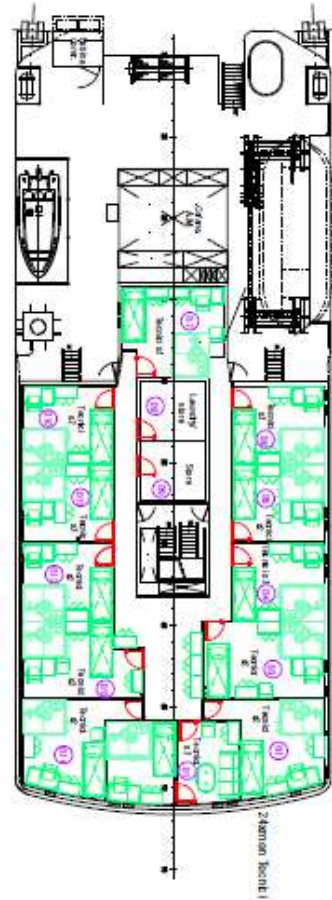




DECK



DECK



DECK

- ALL CABINS WITH BATHROOM
- 18 CREW 24 TECHNICIANS + 2



- NEW STERN “A” FRAME
- EXTENDED BRIDGE
- NEW LATERAL OPENINGS





- NEW LABS ARRANGMENTS

MULTIBEAM 7150 UPGRADE

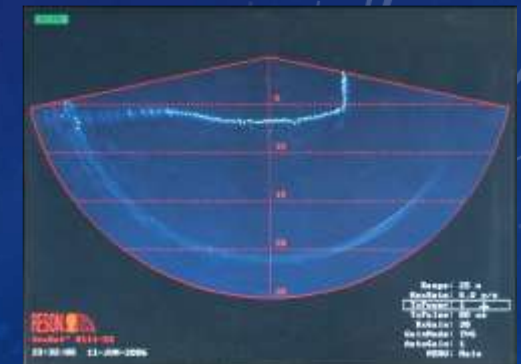
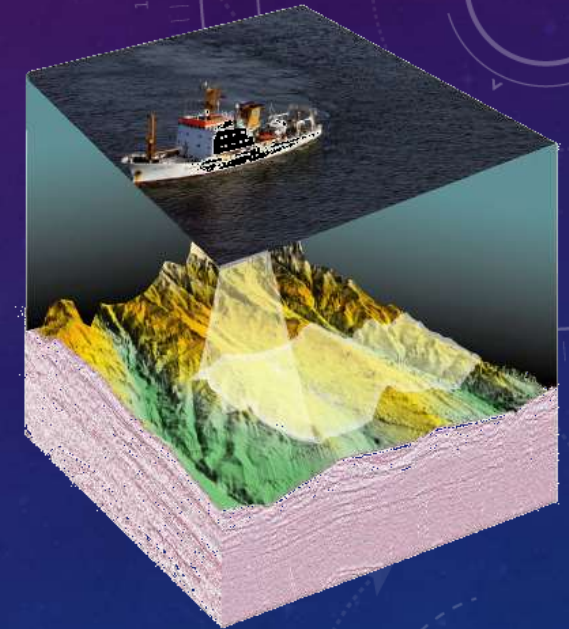
RESON SEABAT 8111

Operating frequency	100 kHz
Beamwidth across track	1.5°
Beamwidth along track	1.5°
Max swath	150°
Max swath coverage	7 x water depth
Depth range	20-600 m

RESON SEABAT 7150

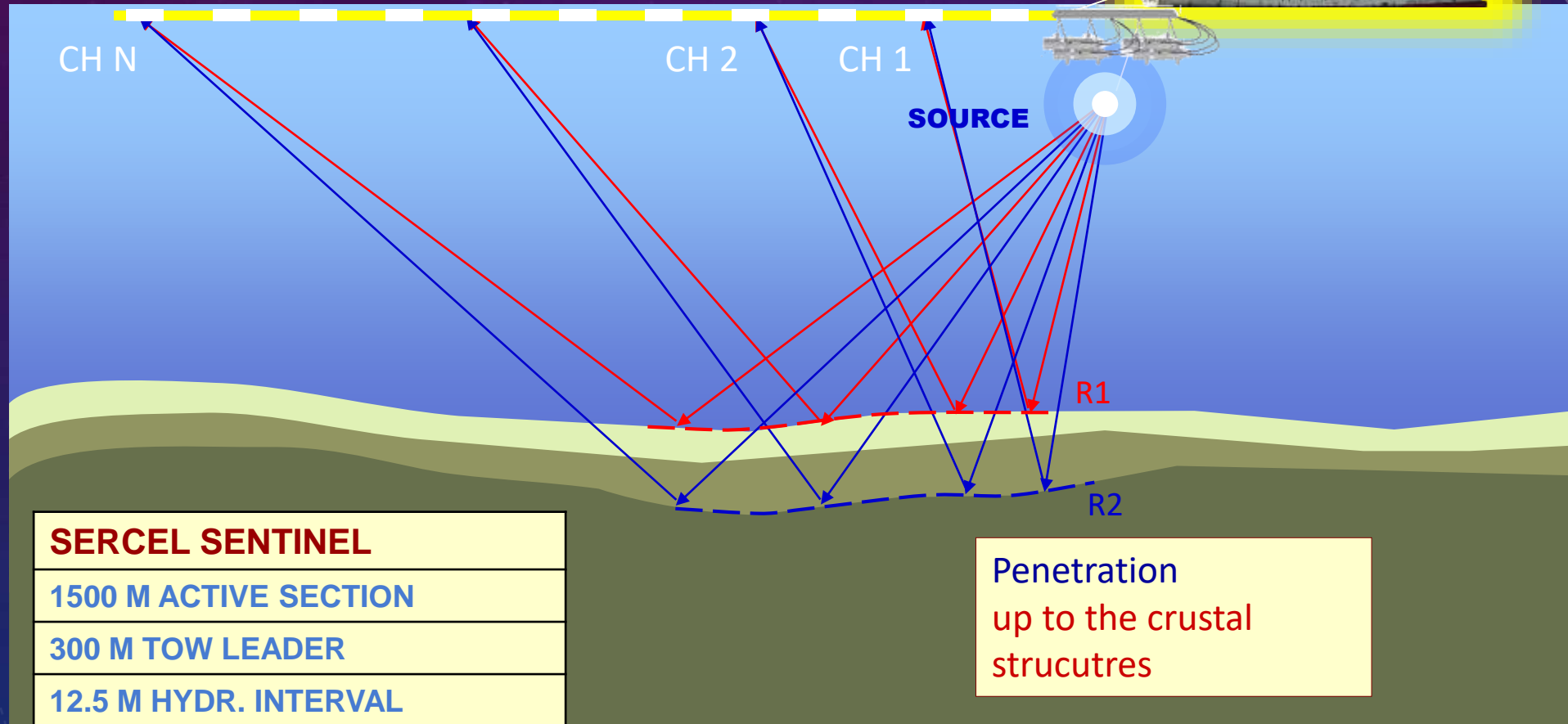
Operating frequency	12 kHz
Number of beams	880
Beamwidth	variable
Max swath coverage	5 x water depth
Pitch / roll compensation	+ / - 10°
Depth range	50 - 6000 m

Acquisition software	PDS2000
Processing software	PDS2000



NEW SEISMIC CAPABILITY

STREAMER



FUTURE PROGRAMS

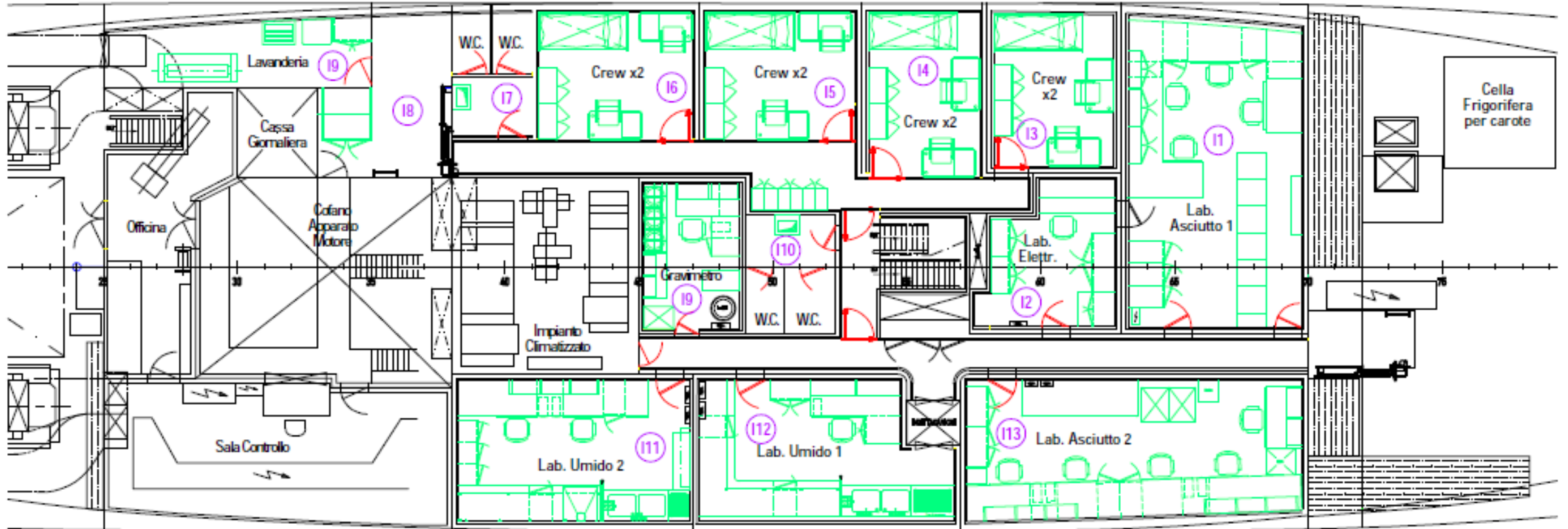
- 20 OCTOBER 2016 REFIT CONCLUSION
- 5 NOVEMBER REARMED
- 20 NOV. DEPARTURE - HOBART FOR ANTARCTIC MISSION
- PNRA AND EUROFLEET – ROSS SEA MISSION
- APRIL 2017 SURVEY OFFSHORE SOUTH AFRICA
- JUNE 2017 BACK - MEDITERRANEAN SEA FOR RESEARCH PROJECTS

INTENTION IS TO SUBSTITUETE OGS-EXPLORA WITH A USED
POLAR CAPABILITY VESSEL CAPABILITY

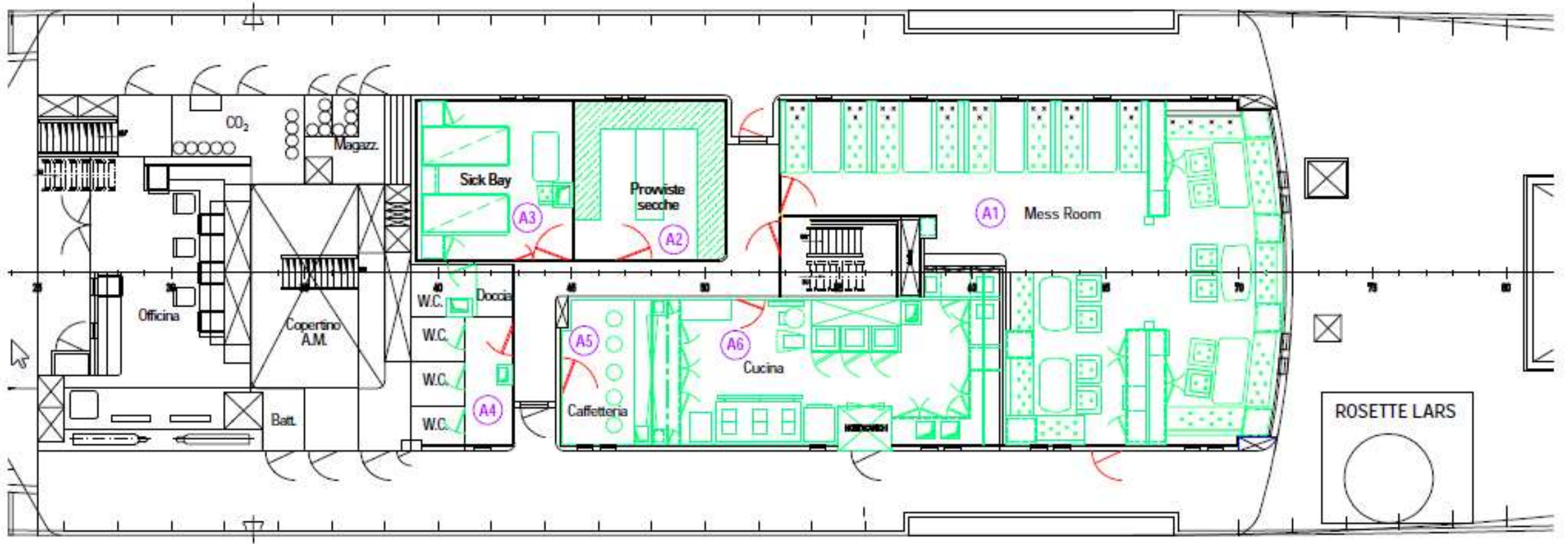
Grazie per la vostra attenzione, Thanks for your attention,
Köszönöm a figyelmet, Hvala za vašo pozornost, спасибо за
ваше внимание, Dankie vir jou aandag,

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1°PONTE SOTTOCOPERTA - I DECK



PONTE DI COPERTA - DECK A



PONTE LANCE - DECK B

