LUSO ROV

Portugal

Antonio Calado – ROV LUSO Coordinator
apgcalado@emepc

EMEPC
Ministério da Agricultura, do Mar, do Ambiente e do Ordenamento do Território
ESTRUTURA DE MISSÃO PARA A EXTENSÃO DA PLATAFORMA CONTINENTAL

Kiel Workshop

February 2012

EMEPC

Task Group for the Extension of the Continental Shelf

- Created 2005
- 25 tech , researcher and administrative (marine geology, geophysics, and biology, law, marine tech engineering, IT and hydrographers)
- Mission
  - prepare the portuguese submission for the extension of the continental shelf (UNCLOS art. 76 implementaion)
- Objectives
  - Forster national tecnological capacity for marine research
  - Support basic and applied deep sea research with academia R&D centers and private sector
  - Develop IT solutions for marine data integration and dissemination and support decision making

The LUSO ROV Project

Timeline of competence building

2007

- ROV Market Evaluation
- ROV System acquisition
- ROV System production (ARS + All Oceans)

2008

- Vessel preparation (DP, USBL, Main Deck)
- ROV Reception (Ago)
- ROV Operations (3 Ext. ROV Techs)
- Team recruitment
- Team basic and on job training (OJT)

2009

- New ROV Skid – Geo and Bio Sampling
- ROV Operations - Sep-Nov (2 Ext. ROV Senior Techs)
- Team OJT

2010

- Team Norway training
- Shilling T4 Training
- ROV Operations (1 ext. ROV tech)
- ROV lost and recoved

2011

- ROV HQ
- GeoStar sub. observatory recovery
- REP 11 mission
- MBARI Pacific Mission

2012

- ROV HQ fully operational
- IMCA pilots certification (May)
- Modular specific training
- ROV Ops – Jun-Ago)
- VARS integration with M@rBIS

…2015

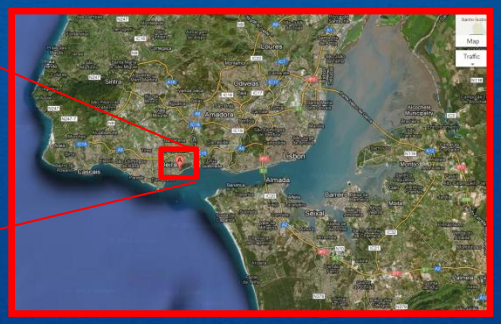
- EM ROV integration (mineral resources – Nautilus)
- Vibracorer integration – MBARI, NOC, Taiwan
- ROV DP system
- New specific skids to optimize sampling

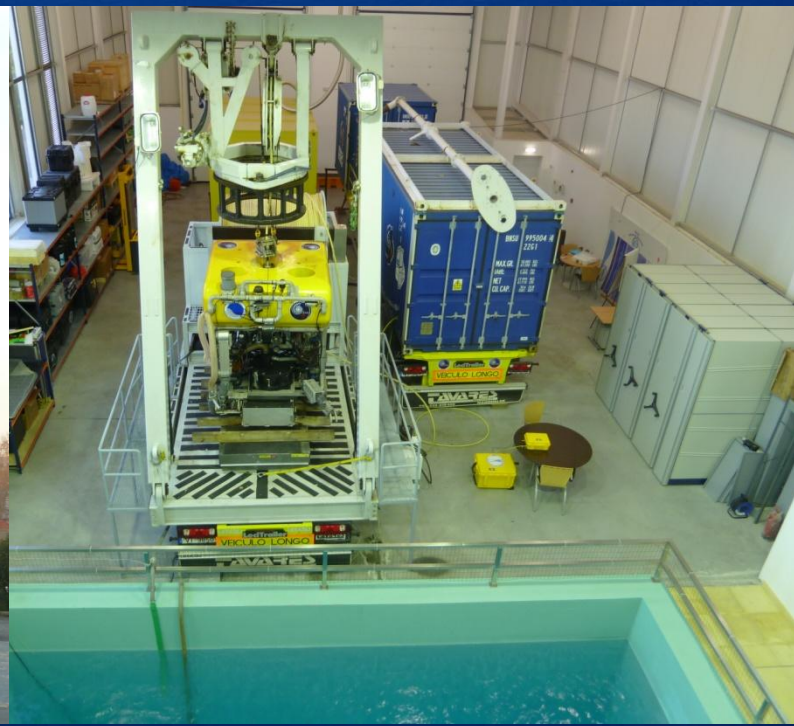
Depth: 0032.97

Hdg: 097

ROV Headquarters

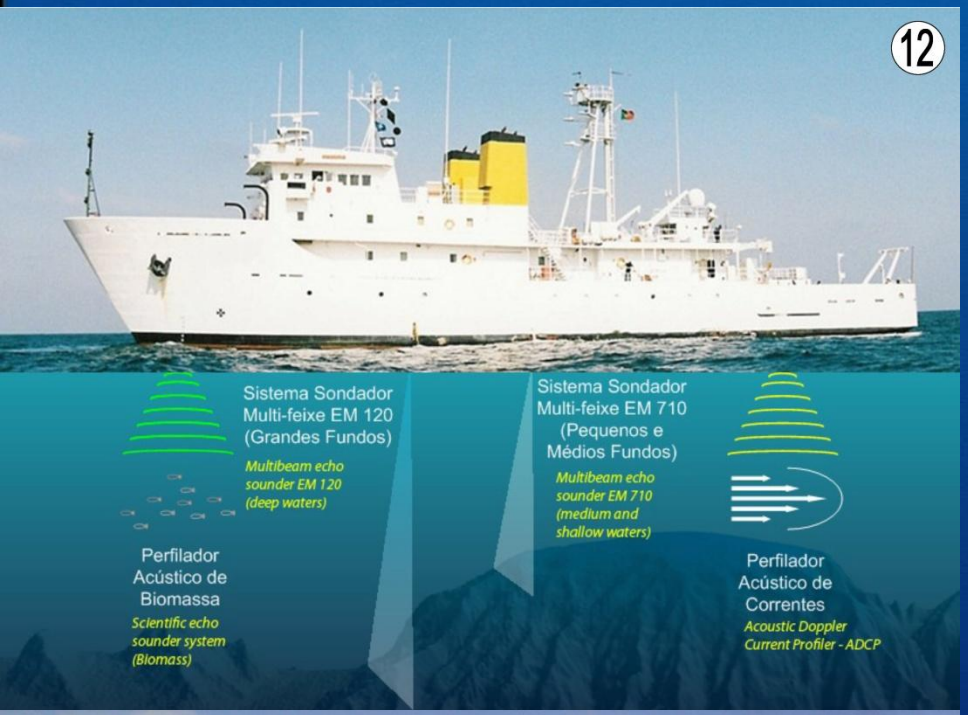
12:10:08: 16:52:42





Depth: 0032.97
Hdg: 097

Commonly Used Platform



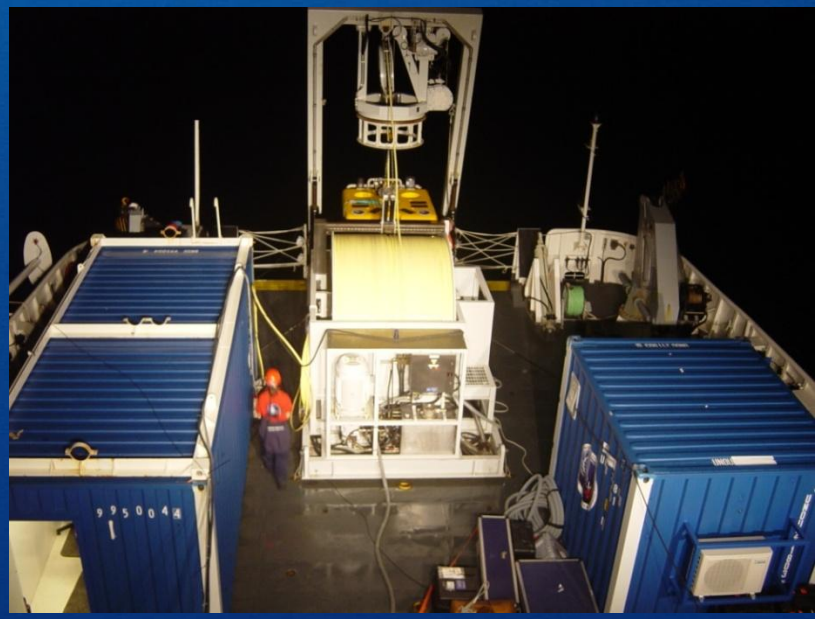
NRP "Alm Gago Coutinho"

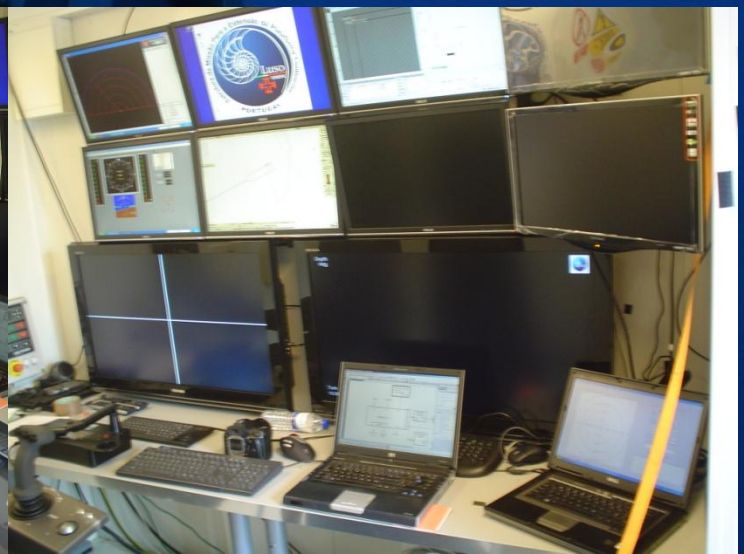
- 68,2 x 13,1 m (LxW)
- DP (2 main props, 2 stern lateral, 1 bow prop)
- 2 Labs
- 18 Sci & Tech berths

Depth: 0032.97
Hdg: 097

ROV LUSO System

12:10:08: 16:52:42





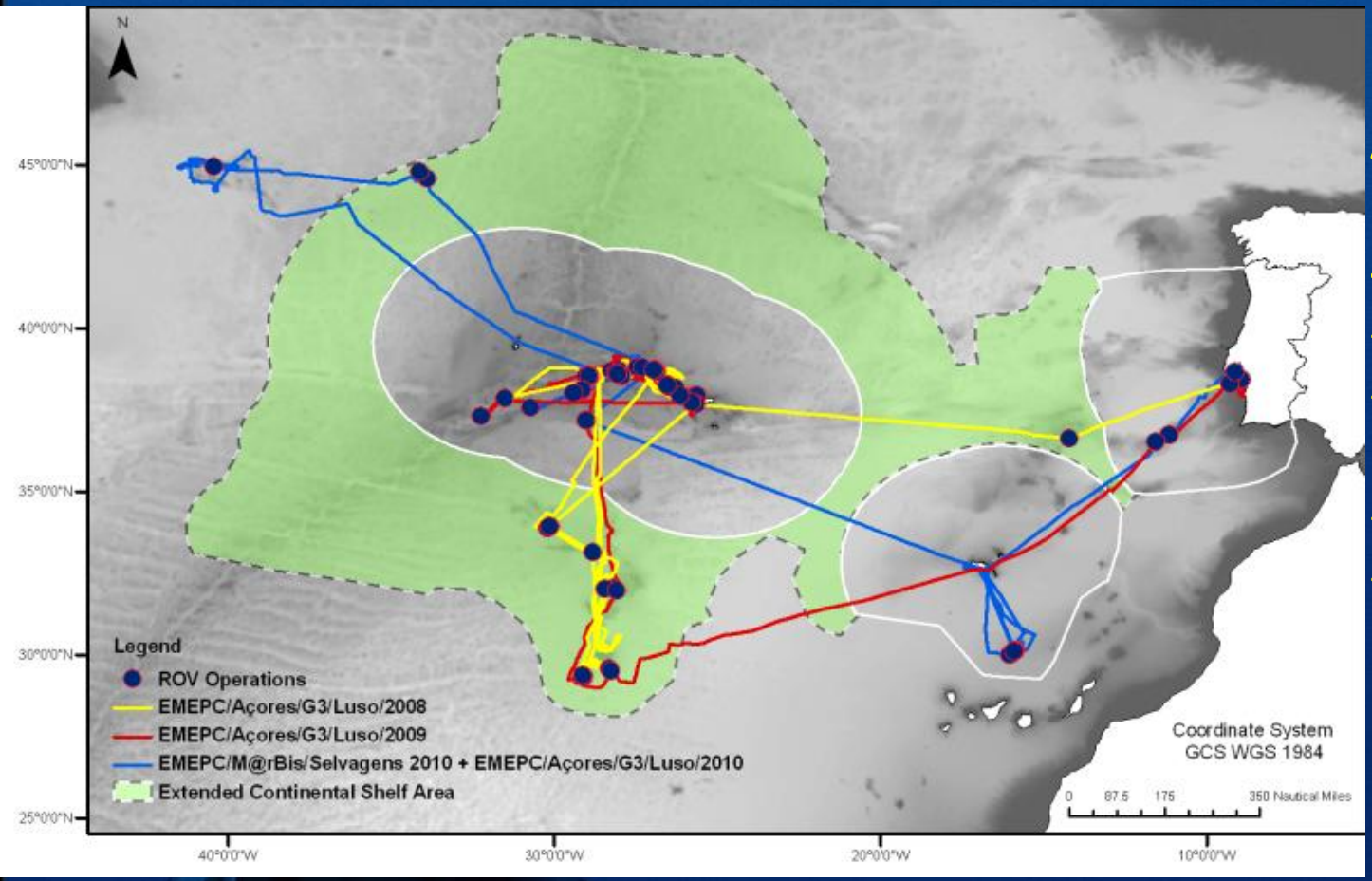
ROV LUSO


Depth: 0032.97
Hdg: 097
12:10:08: 16:52:42
logística de campanha
campaign logistics
luzes de alta intensidade (7500 watts)
HID lights (7500watts)
transmissor e receptor acústico de posicionamento
USBL (Ultra ShortBaseLine positioning system)
sensor de CO_2 e CH_4
CO_2 and CH_4 sensor
umbilical
umbilical
flutuador
buoyancy
câmara HD e 2 lasers de escala
HD camera and 2 laser scaling device
propulsores (4 horizontais + 3 verticais)
thrusters (4 horizontal + 3 vertical)
LUSO
Bathyguardios SL
www.emepc.pt
amostrador biológico
biological suction sampler
garrafas Niskin
Niskin bottles
manipulador de 5 funções
5 function arm
CTD c/ sensores:
* fluorescência
* clorofila
* O_2
* CO_2
CTD with fluorescence, chlorophyll, CO_2 and O_2 sensors
manipulador de 7 funções
7 function arm
girobússola
fluxgate compass
sala de controlo
control room
caixa de amostragem
sampling box
suporte para corers
corers holder
altímetro
altimeter
DVL
(Doppler Velocity Logger)
garrafa electrónica
electronic bottle

Depth: 0032.97
Hdg: 097

Major Working Areas

12:10:08: 16:52:42



North Atlantic

- Azores Platform
- Madeira Platform
- Wes Iberia Margin
- N.Atl. Seamounts
- MPA's

Task: D2L2

LUSO ROV

Portugal

Antonio Calado – ROV LUSO Coordinator
apgcalado@emepc

Kiel Workshop

February 2012

General Description	**Dimensions**	**LxWxH - 1.9mx1.6mx2.0m; Weight 2000kg**
	Payload	100kg
	Frame	Aluminium tube T6062
	Pods	Titanium Grade 5
	Connectors	Titanium Grade 6
	Buoyancy	Syntactic Foam
	Manipulators	1x5 function; 1x7 function
	Umbilical	6000m Kevlar Armoured Umbilical
	Deploy Method	Free Flying Latch
	Launch Method	LARS (Launch and Recovery System)
	Total Deck Weight	35 Tons (ROV, LARS, Workshop, Control room, Generator)
Standard Equipment Fit	Manipulators	1xSchilling Rigmaster and 1xScilling T4
	Cameras	1xSony FCBH10 Argus Rs FocusZoom HDTV; 1xDSPL lowlight Black&White; 5xDSPL other
	Sonar	Mesotech MS1000
	Altimeter	Mesotech 1007
	Lights	4x250W DSPL Halogen; 4x150W Argus RS HID
	Pan&Tilt	SubAtlantic 24 VDC
	Depth Sensor	SAIV TD303
	Compass	KVH C-100 Fluxgate; KVH DSP 3000 FOG Gyro
	Samplers	Mini-Drill; 2xPush corers; Suction sampler with 5 chambers
	Sensors	Teledyne DVL; Contros CH_4; Contros CO_2; SAIV CTD SD204 with Dyssolved O_2, Fluorescence and Turbidity
	Lasers	2xImenco green lasers
	Auto Functions	Auto Head; Auto Depth; Auto Altitude
	Hydraulic Compensators	2xSubAtlantic 2700cc; 5xSubAtlantic 860cc
Performance	Bollard Pull	Fwd 375kg; Lat 250kg; Vert 300kg
	Speed	Fwd 3kn; Vert 1.6kn
	Potency	75HP
Power Requirements	ROV Power Unit	440VAC, 3-Phase, 60kVA, 80A (stable)
	Thrusters	7x5.5kW, 20A; 4Hor and 3Vert
	Hydraulic Power Unit	2x5.5kW, 15lpm, 180bar