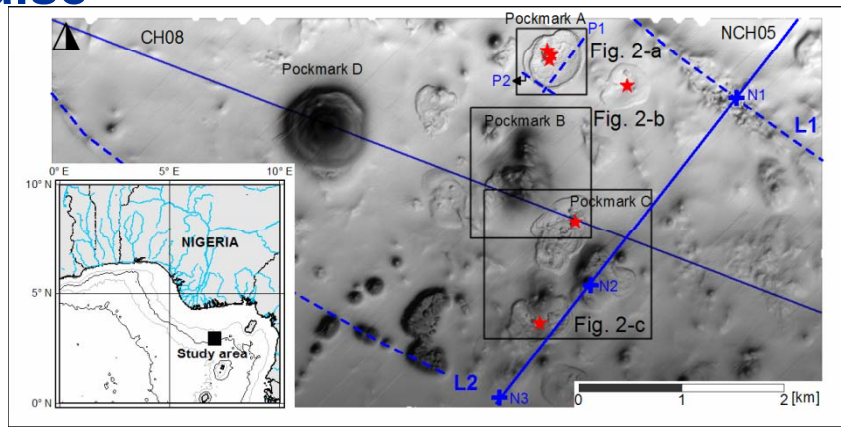
Deployment of MEBO from Pourquoi pas? R/V

Feasibility conducted in 2008 for GUINECO cruise

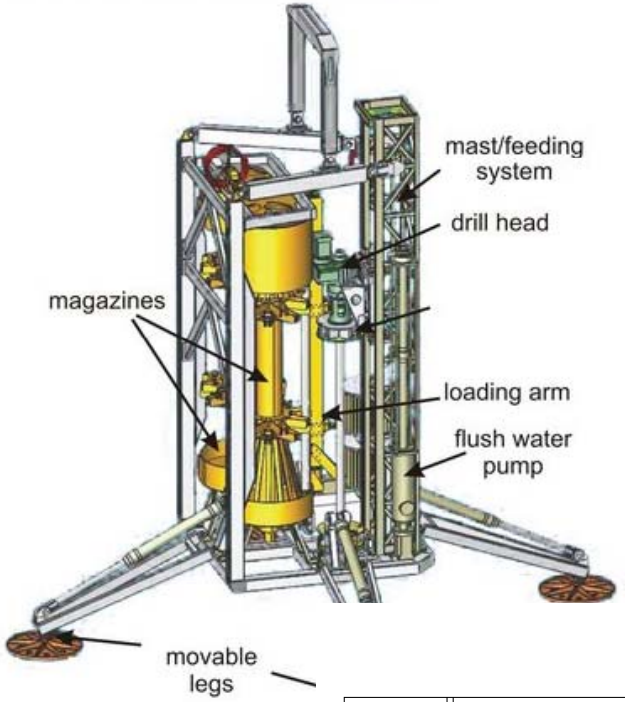


➢**Different aspects :**

- On-board installation
- **Launch and recovery**
- Mechanical interfaces
- Electrical interfaces
- Software interfaces

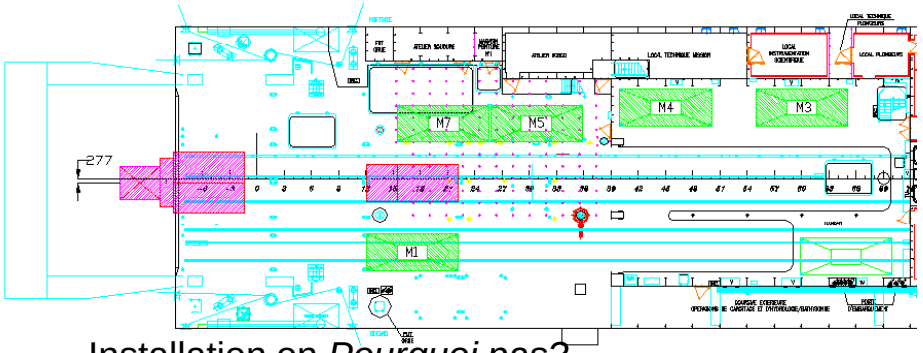
Mebo system

MeBo drill rig description



- **Vehicle**
- Dim : 2,3 * 2,6 * 6.6m
- Weight in air : 10t
- Weight in water : 7,5t
- Depth : 2000 m
- **Winch** : 20’ – 28t
- ✓ **LARS**
- ✓ **Containers** : 6 * 20’

MEBO	Containers
M1	1X20’ SPECIAL MEBO
M2	1X20’ SPECIAL WINCH
M3	1X20’ OFFSHORE CONTROL
M4	1X20’ WORK SHOP
M5	1X20’ DRILL TOOL
M6	1X20’ TRANSPORT LARS
M7	1X20’ LARS HPU



Installation on *Pourquoi pas?*

Handling procedure

- **Launching procedure**

- LARS used to drive MEBO from horizontal to vertical position
- When A frame slightly out-boarded, deep sea cable handles MEBO, disengages it from LARS
- A frame is still slightly over-boarded and cable is paid out – floats are fitted

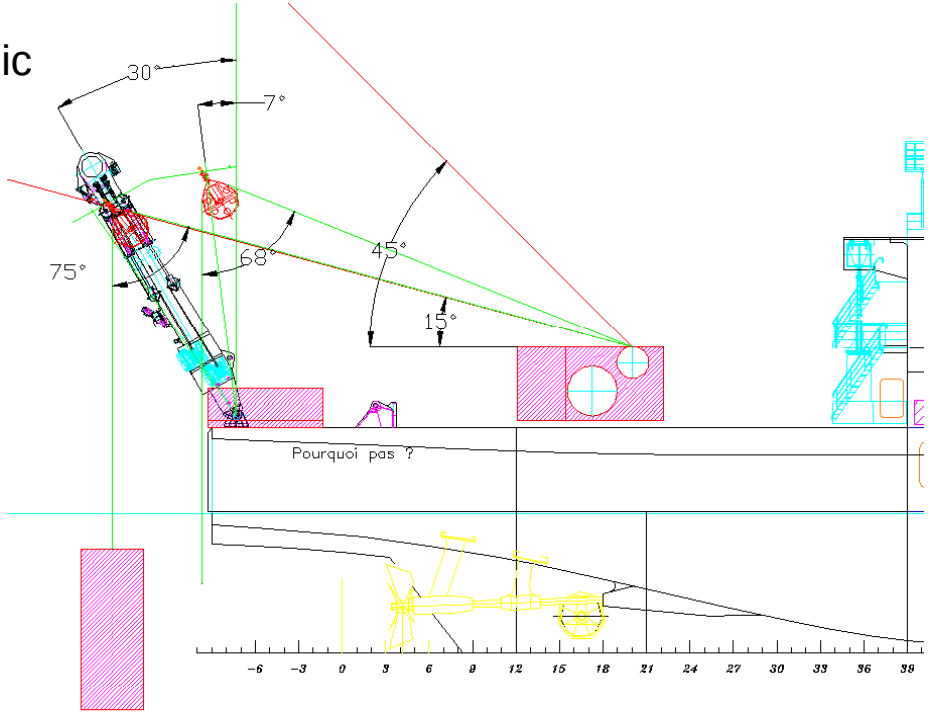
- **In conclusion** : Aframe is not used from in-board position to vertical position

Deployment : Is the A frame able to deploy MEBO?

- **In air** :
  - Mébo weight in air : 10t
  - Deep sea pulley : 1t
  - On line : 11t + dynamic load

- **In water** :
  - Mébo + cable : 14t
  - Pulley : 1t
  - On line : 15t + dynamic

- **Cable winch outlet angle** : [15°, 45]°



A frame not fully out-boarded when MEBO in operation

➢ Initial A frame SWL

- 8t SWL pulley fixing point for launch and recovery (in air)
- 15t on line when vehicle in water (dynamic included)
- Max load allowed when A frame fully out-boarded

➢ MéBO requirement

- 11t SWL but A frame not loaded from in-board to vertical position
- 15t on line when vehicle in water + dynamic loads
- 17t (static) to unroot the Mébo
- A frame not fully out-boarded when MEBO in operation

➢ Study ordered to Kley France :

- Confirmation of the ability to deploy Mebo with the Pourquoi pas? A frame
  - 12t in air (1t more in case☺) + dynamic load)
  - 15t in water (+ dynamic load)
  - 17t when pull up (static load)
- Certification by

➢**Morality :**

This could have failed!, so anticipate when you are building a new ship or vehicle