

# RV BELGICA ACTIVITY 2017

LIEVEN NAUDTS



Royal Belgian Institute of Natural Sciences



Belgian Science Policy Office

## 1. General



length: 50.9 m beam: 10.0 m draught: 4.6 m

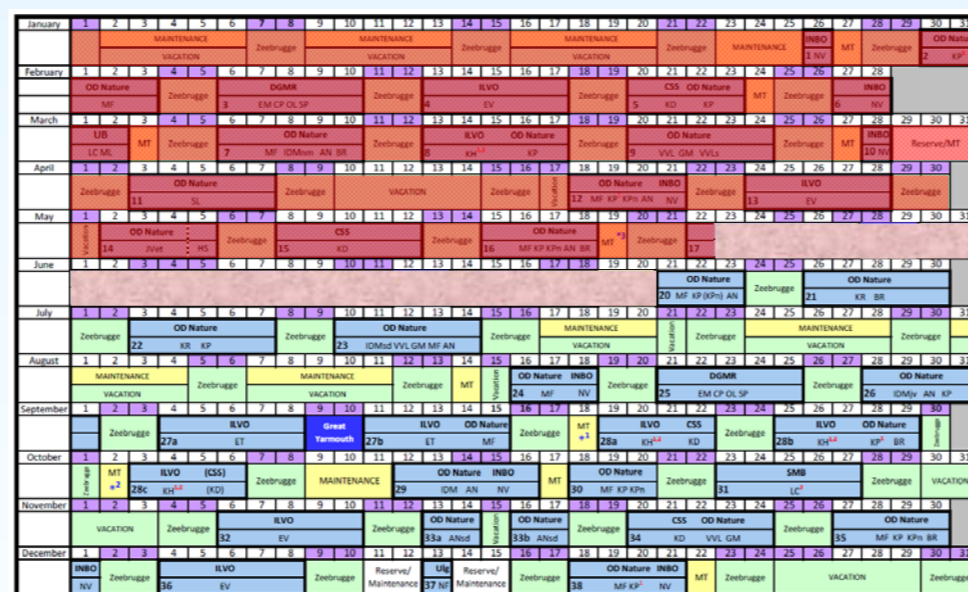
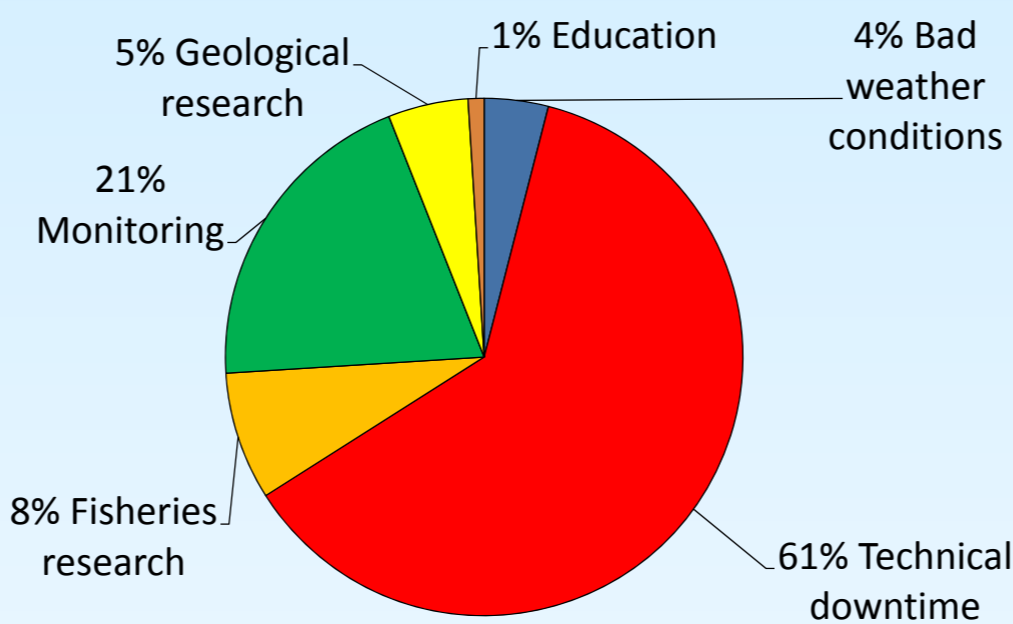
Operated by Belgian Navy since °1984

Belgian Navy crew :15 pax  
Scientists :16 pax

Owned by Belgian Federal Science Policy

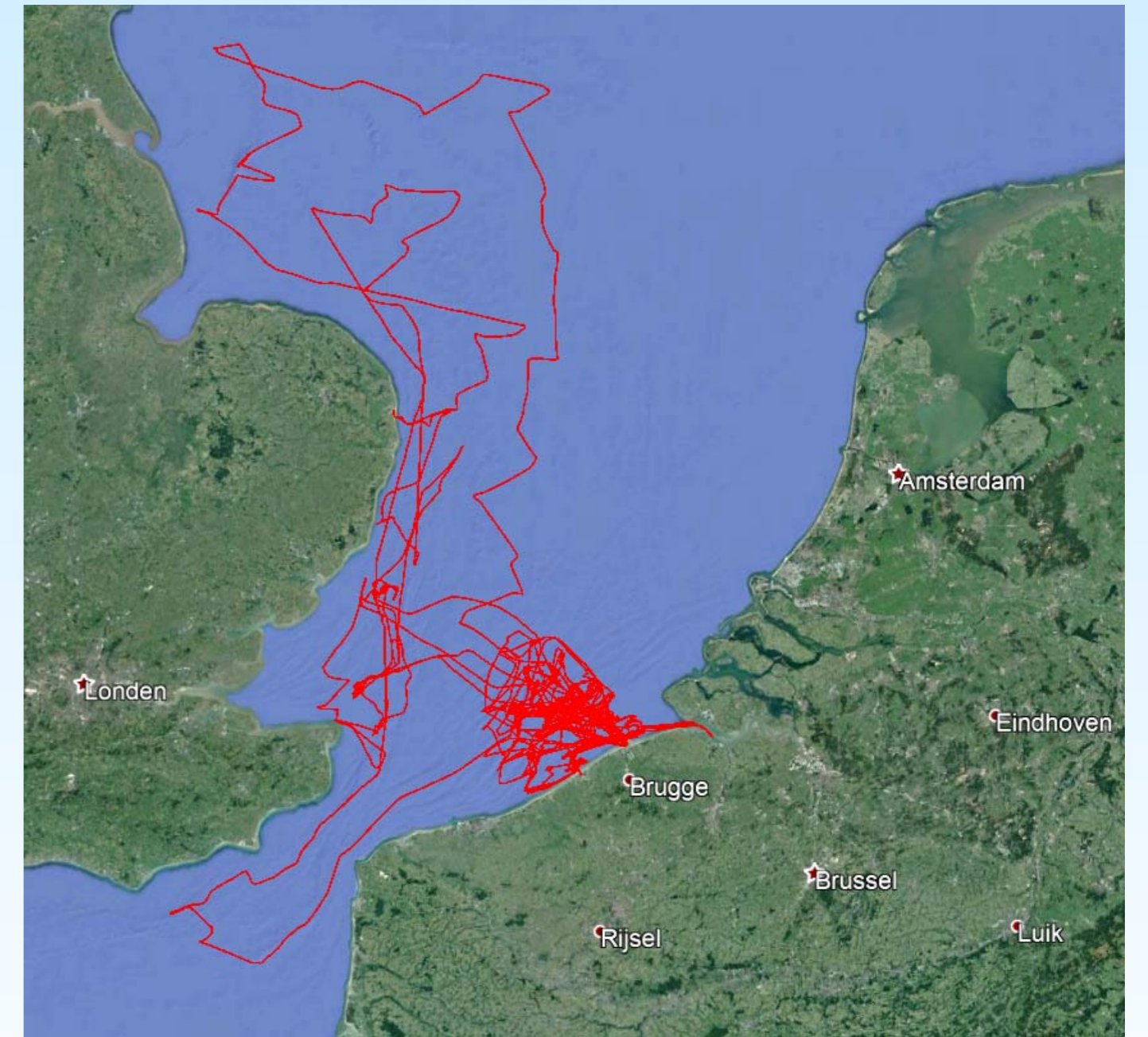
Coordinated by RBINS – OD Nature

RV Belgica 2017:  
Evaluation of the 182 planned science days



Program 2017

Ship track 2017



sailed distance 2017:  
4 034 nm

## 2. Bearing problem part II

Continuation of the bearing problem from 2016

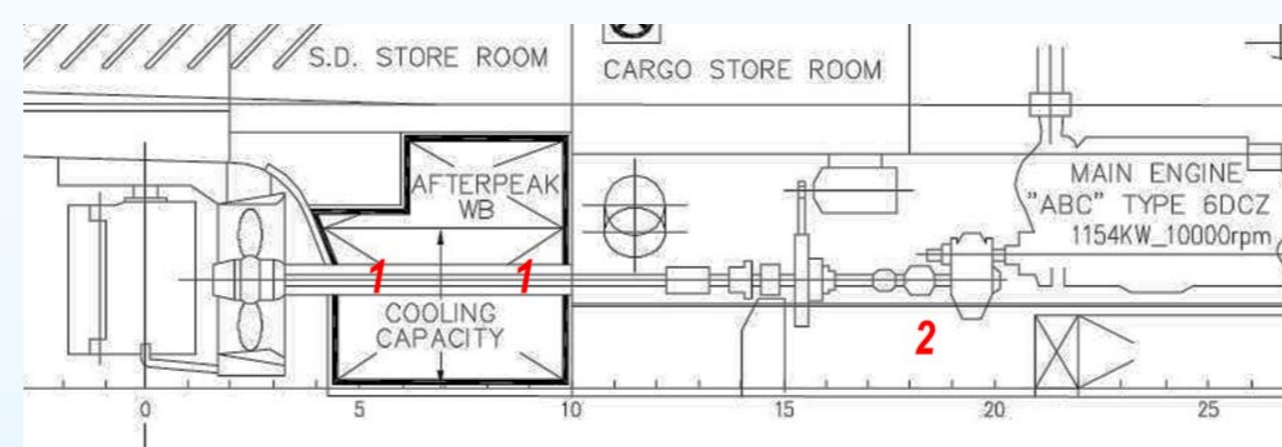
- Extensive vibration and ODS measurements (January 2017), indication of vertical movement; structural problem?
- During several sea trials the problem remains with temperatures above 100°C (January 2017)
- RBINS-OD Nature own investigations shows that there still is a misalignment of the propulsion line (March 2017)
- RBINS-OD Nature gets in contact with DAMEN NewBuild
- The ship yard appoints a new subcontractor to perform a full analyses of the propulsion line (temperatures, displacement, vibration, bending stress, etc.) (March-April 2017)
- The propulsion line seems to be ok, no major abnormalities (incl. vibrations and displacements)
- The lubricating oil was changed to a lower viscosity oil identical to the oil used in the past. Bearing temperature significantly reduced cfr. lower shear friction and possible effects of slipping (ca. 20°C)
- The design of the bearing and too low load are indicated as main cause of the problem
- DNV-GL allows to resume full operation (April 2017) based on:
  - Strongly reduced bearing temperature
  - Continuously monitored bearing temperatures
  - Addition of a cooling system
  - Indication that there is no structural problem with the propulsion line

Due to this problem 88 planned scientific days were lost and 25 programs affected in 2017

Onderzoeksschip Belgica al bijna jaar voor anker



- It was only in March 2017 that scientist got the media involved which led to parliamentary inquiries
- RV Belgica resumed her original 2017 program from 21st June.
- Discussion with the ship yard on who is responsible for the costs (refit costs after SAT, chartering of vessels, loss of income) since July 2016 is unresolved.



## 3. Finally at sea again!

After 19 months of waiting and frustrations for all involved, RV Belgica resumed her work at sea with a visit of the State Secretary of Science Policy, Zuhal Demir, on the 23th of May.



## 4. Replacement process: NewRV

- Cooperation agreement Belgian Defence – Belspo – RBINS-OD Nature
  - Steering committee
  - Project team technical and scientific specifications ([NewRV@belspo.be](mailto:NewRV@belspo.be))
  - Working group operational aspects – convention
- 7 offers were received (Astilleros Armon (ES), DAMEN shipyards (NL), Cammell Laird (UK), Freire shipyard (ES), Chantiers Piriou (FR), Astilleros Gondan (ES), Niestern Sander shipbuilding (NL))
- The offer from Freire shipyard with a design of Rolls-Royces was finally selected.

### Timeline

- March 2017: final agreement on replacement including budget (Council of Ministers)
- June 2017: launch of tender
- End 2017: agreement on selection (Council of Ministers)
- Jan-May 2018: procedural & administrative obstacles, re-agreement on selection (Council of Ministers)
- June 2018: signed contract
- 2018-2020: design & build NewRV (28 months)
- 2018-2019: new convention and business plan (Council of Ministers)
- Autumn 2020: Delivery NewRV



- 69 m x 16 m x 4,8 m
- Operations up to 5000 m water depth
- Ca. 54 M€ incl. VAT (21%)

[odnature.naturalsciences/Belgica](http://odnature.naturalsciences/Belgica)

