











## The new RV Belgica: delivery and operations



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### Timeline

2021 - 2022

Pre-Oct 2021 See previous ERVO presentations (2005 - 2021) incl. technical specs

Oct 2021 Award contract integrated management and operation of the ship to GENAVIR

Nov 2021 Training mixed crew (Navy & Genavir) & take over of the ship by GENAVIR

Dec 2021 Delivery of vessel

Jan 2022 Start operations new RV Belgica















### **Operational & management organization**

#### Federal Research Vessel

- Belgian Science Policy Office (BELSPO) is the owner of the multidisciplinary research vessel as representative of the Belgian State.
- The Royal Belgian Institute of Natural Sciences (RBINS) manages the RV Belgica (which includes, the planning of the scientific campaigns, the responsibility for the ship's budget and the scientific instrumentation support).
- The private operator Genavir is responsible for the integrated management and operation of the ship (which includes, the crewing and the operational & maintenance support).
- The Belgian Navy provides the bridge personnel (Captain, Chief Mate, Second Officer) and the home port of Zeebrugge.





















## **Training & Delivery**

#### **TIMELINE**

- Operator contract awarded 30<sup>th</sup> of October 2021
- Training crew (BE, FR, LT) (02/11-28/11)
  - 18 days at quayside
  - 5 days at sea (SATs were done in Dec 2020 en Feb 2021)
- Delivery procedure (Belgian Flag, port authorities, contractual discussions, etc.) (30/11-09/12)
  - 10 days due to Spanish national, regional and local holidays closed authorities & banks

















### Training & Delivery

#### **REMARKS**

- Originally training was planned during commissioning
  - Agreement on procurement procedure and budget and finalization of procurement for the operator (legal actions) made this impossible.
  - Late award of operator contract also resulted in many justified comments of the operator towards the yard (extra punch list – 289 items).
- When is the best period to organize contractual training? During commissioning and sea trials? After delivery? Both?
- Delivery of vessel was very stressful cfr. contractual discussion and punch list agreement (48 items)















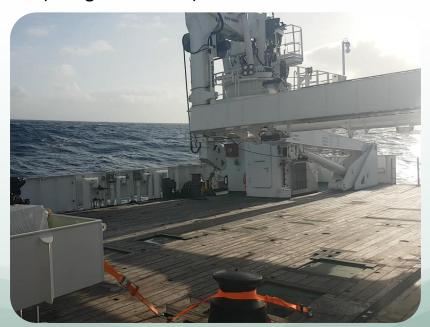


## **Training & Delivery**

#### **HOMEPORT**

- The new RV Belgica arrived in Zeebrugge (Belgium) on the 13<sup>th</sup> of December 2021
- Delayed delivery
  - Originally 28 months (Design and Build);
  - Due to Covid-19, commissioning, weather, etc. 34 months
  - Due to delayed operator contract 43 months (Design and Build)

















#### **YEARLY PROGRAM 2022**

Requested: 464 scientific days

• Planned 223 scientific days; 31 transit days, 7 foreign port days, 4 event days

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#### **BUT....**

- Shortly after arrival in Zeebrugge (15/12/2021) the Harbor/Emergency generator broke down due to a fan drive failure and associated camshaft damages
- Repair was very slow due to end of year holidays, spare part delivery issues, etc.
- 3 weeks were lost Eurofleets+ campaign to Mediterranean Sea needed to be replanned
- No clear root causes during repairs
- Further Failure Root Cause Analysis by Mitsubishi indicated:
  - Fan Drive Gear bolts installed without washers Insufficient tightening force on the bolts.
  - Bolts still come loose no final solution yet! Also occurred during pre-commissioning period!
- Who will pay for the loss of shiptime and associated costs!?





















#### YEARLY PROGRAM 2022 - UPDATED

- Requested: 464 scientific days
- Planned 227 scientific days; 20 transit days, 7 foreign port days, 4 event days

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#### YEARLY PROGRAM 2022 - UPDATED

- 20 campaigns performed 121 days of planned 136 days (Covid-19, Weather, Favorable outcome)
- 2 Eurofleets+ campaigns in the Mediterranean Sea (24 days)
- 351 scientists (257 unique ones): 215 BE 136 foreign; 198 M & 153 F
- > 15 200 nm sailed
- Overall, very successful thanks to GENAVIR skilled crew and experienced organization notwithstanding > 300 warranty claims (up to date)
- Ship performs very well and is very capable
- Scientists are generally very happy with the new ship and the new operator
- Downside: Long financial uncertainty cfr. political decision on operational budget and fuel cost



































# Royal and Ministerial Visits, Baptism & Open Doors





















### Warranty

#### **CONTRACTUAL**

- 2-year warranty period
- Belgian law implies direct and indirect costs to be covered

#### **ACTUAL SITUATION**

- 318 claims (excl. punch list items)
  - 40% solved 15% refused
  - Claims are generally spread over all different ship systems
  - Yard and suppliers inappropriately depend on ship's crew to check and solve issues!
  - Many suppliers are very slow to provide feedback, spare parts, solutions, interventions!

This experience seems to be common among (research) vessel construction/delivery, independent of the shipyard. How can we as ERVO community better protect ourselves and mitigate these problems?

- For the new RV Belgica the following could have helped:
  - Having the crew/operator onsite during build and commissioning incl. sea trials
  - Foreseeing training (incl. problem solving) during operational life after delivery















### **Conclusions**

### We got the multidisciplinary Research Vessel we wanted!

- Our tender was sufficiently detailed for a 1 phase tender (for Design & Build) with limited budget
   (<45 M€ excl. VAT) for a highly complex and capable vessel.</li>
- It was clearly an advantage to work with a **shipyard with a wide experience** in building RVs. A **designer** and **suppliers** with very **recent RV experience** was also very favorable.
- Onsite team (Marine Engineer, Marine Technician, Scientific Engineer) was primarily sufficient. An extra onsite member for Electricity/IT could have been helpful (but was covered by offsite team).
- Due to the **delayed procurement** for the **operator**, the operator couldn't be involved in the commissioning of the vessel in hindsight this was clearly a large disadvantage
- Warranty claims are an important issue! We, as RV operators, are often happy to have a new ship
  after a long political decision phase, a procurement phase, a design & building phase but should
  think/act to insist on shipbuilders and suppliers to provide the correct warranty work.













# Thank you!



Please visit: <a href="mailto:odnature.naturalsciences.be/belgica">odnature.naturalsciences.be/belgica</a> & <a href="mailto:belgica">belspo.be/NewRV</a>

Website, Facebook, Twitter, etc.