

RV BELGICA II: a new oceanographic research vessel to replace the existing A962 Belgica

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The present-day Belgian oceanographic research vessel A962 Belgica is a twenty-eight-year-old research platform. Although the Belgica continues to perform scientific activities for ca. 180 days a year, the renewal of the vessel should be anticipated. The lifetime of a research vessel is approximately 30 years (Binot *et al.*, 2007).

In 2009 a feasibility study was ordered by the Belgian Science Policy Office (BELSPO) to assess the best future options for the A962 Belgica, i.e. replacement by a new oceanographic research vessel or modernizing the existing vessel. The main conclusions of this study are:

- i. RV Belgica is overall in good working order but obsolescence of certain equipment together with (hidden) corrosion and the lack of space and comfort are troublesome for a modern oceanographic research vessel.
- ii. The ship time demand in terms of researcher units (8 hours) expressed by the Belgian scientific community (questionnaire 2008) would lead to a total of 10,000 units compared with the current 4,000/5,000 units. The current vessel operated by one crew can certainly not accommodate for this demand.
- iii. The scientific community insists the new ship should be a multipurpose research vessel (for hydrography, geology, biology, oceanography, fisheries, environmental sampling, etc.) with dynamic positioning capabilities, with an autonomy of four weeks, with more space and ideal for large-scale equipment (AUV, ROV, coring, etc.) and with a minimal ice class.
- iv. Multipurpose oceanographic research vessels belonging to the regional/ocean class will be lacking in Europe in the near future. Therefore a pan-European approach regarding transnational access, design, pooling of equipment etc. should be fostered (cfr. EC-FP-7 EUOFLEETS project).
- v. Regarding the financial, technical, statutory aspects modernizing the existing vessel can be abandoned as a feasible option; acquiring a new oceanographic research vessel is the only option.
- vi. A time schedule of 5-7 years should be foreseen and a budget of >50 M€ (VAT excl.) is required.

A new research vessel Belgica II will be completely compatible with the new Flemish research vessel Simon Stevin. As the present day RV Belgica, the new RV Belgica II will perform multiple day (5-20 days) expeditions whereas the RV Simon Stevin generally will perform daily expeditions. The new RV Belgica II will be a larger ship (preliminary dimensions as an outcome of the feasibility study: overall length 65m, breadth 17m, draught 4.6m) and will perform scientific tasks in the regional Belgian and nearby European waters whereas the RV Simon Stevin is much smaller (36m by 9m by 3.5m) and will operate in Belgian coastal waters. The difference in working area and in expedition duration shows that both research vessels are indeed compatible. The two research vessels, RV Belgica II and RV Simon Stevin, will accommodate for the growing demand in marine research and knowledge.

References

- Binot J., J. Danobeita, Thomas J. Müller, P.W. Nieuwejaar, M. Rietveld and P. Stone (Eds). 2007. *European ocean research fleets: towards a common strategy and enhanced use*. European Science Foundation, Marine Board: Position Paper, ESF, Strasbourg. 62p.
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