

Summary report of the 5th meeting of the international Scientific Advisory Board (SAB) meeting of the French Oceanographic Fleet (FOF) held at 17th May 2021 via Video conference

Welcome

The SAB members were welcomed by Pascal Morin. Because of the dynamic Covid-19 pandemic some members including the chairman attended via video-conference.

Introduction of two new SAB members: Cécile Guieu and Daniel Toal

Cécile Guieu introduced herself and described her scientific background as being a marine biogeochemist and Senior Scientist at the Centre National de la Recherche Scientifique working at the Laboratoire d'Océanographie in Villefranche sur Mer. Her research interests focus primarily on iron and micronutrients in the ocean and the atmosphere, Climate and anthropogenic forcing on oceanic processes, Bioavailability of metals and micronutrients and ocean acidification.

Daniel Toal is the Department Chair of Electrical Engineering and Robotics at the University of Limerick in Ireland and Director of the Centre for Robotics & Intelligent Systems.

Members Renewal of CNFH Fleet Evaluation National Committee members

Pascal Morin introduced two new members of the National Fleet Evaluation Committee. They were nominated by the Board of directors of the French Oceanographic Fleet at the 18th of December 2018. The first new member is Louise Watremez (University of Lille) and the second Hélène Planquette (Université de Bretagne Occidentale). Nathalie Feuillet (Institut de Physique du Globe de Paris) was nominated as alternate candidate.

Recommendation: The SAB had no objections against any of the nominees.

Presentation by the WG of the scientific needs for the RV *Pourquoi pas?* rejuvenation: Stéphane Hourdez, Marie Anne Cambon, Julien Simon

Marie Anne Cambon summarized the results of the Working Group on the scientific needs for the mid-life conversion ("rejuvenation") of "Pourquoi pas?". This summary was supported by a Working Group (WG) report (37 pages). The WG consisted out of representatives from four user groups (Shom, Physics-Biogeochemistry, Geosciences, Ecology-Biology) and they stated, that the general characteristics of "Pourquoi pas?" such as its dimensions, its type of engine or its navigation class, will not be modified during the mid-life conversion planned in the period 2024-2025. The scientific user community in France has expressed a strong interest to use the vessel at higher latitudes than today but there are no plans to strengthen the vessel in a way that she will have icebreaker capabilities. Marie Anne Cambon presented some of the urgently needed renewals such as the Multi Beam Echosounder because the existing one is not any longer supported by the manufacturer, deep coring down to 60 m, extension of the capabilities of the weather mast, installation of a laboratory (biogeochemistry) container in front of the wheel-house, the possibility to use a longer seismic streamer of 9 km length (instead of 6 km today).

The question why the vessel is not used as "Floating University" as for example "Marion Dufresne" was answered that MD has more berth capacities. "Floating University" becomes more and more popular in France because of the necessity to recruit more young scientists in marine research. One SAB member asked whether or not a change of winches is intended. The WG replied that this will happen because many users intent to use gravity corer more frequently and even the deployment of the new deep-sea ROV at starboard-side is envisaged.

The latter is still under investigation. The Dynamic Positioning (DP) system will not be modified because it is sufficient according to the main users.

Recommendation: With the written report together with the presentation given to the SAB there was a general consensus that the work plan and the envisaged modernization are very good and crucial for successful operation of “Pourquoi pas?” during her second half of life-time. The SAB supports the proposed plan.

Presentation by the WG of the scientific needs for a new Semi-Offshore vessel on the French Channel and Atlantic coasts: *Eric Foucher and Eric Thiébaud*

Eric Foucher gave a presentation on the report of a working group regarding the scientific needs for a new Semi-Offshore vessel. The working group consists out of scientists from the French Oceanographic Fleet (FOF) and representative of both the different disciplines in oceanography and the different organisations (Ifremer, IRD, CNRS, Marine Universities). This group has been set up in order to investigate the possible uses of this new coastal research vessel. The construction of this research vessel has been approved by the French State and it will be integrated into the FOF by 2024, thus shortly after the decommissioning of RV Thalia. E. Foucher informed the SAB that the community of fishery biologists are not fully satisfied with the technical characteristics of the new vessel because it will not be able to carry out oceanographic surveys in ultra-coastal areas such as estuaries. The new ship will be more stable at sea than other coastal vessels in France offering the option to use the vessel year-round. Some typical survey scenarios were introduced such as (i) Physical-biogeochemical, (ii) technology research, (iii) ecosystem biology ecology, (iv) ecosystem based and fishery technology, (v) geoscience and paleoclimate, and (vi) teaching surveys. In summary, the new vessel may significantly improve the quality of coastal research in France.

Recommendation: The SAB appreciated the comprehensive and high quality of the working group report. Based on this and the given presentation the SAB supports the plan for the new coastal research vessel entirely.

Submission of proposal of actions for helping young scientists to become chief scientists on scientific cruise proposals

Verena Trenkel, Daniella Zeppilli and Aline Govin

Verena Trenkel presented four identified actions to support young marine scientists to gain knowledge how to prepare successful cruise proposals and to become future chief scientists onboard French research vessels. Otherwise there is a foreseeable tendency that in future the number of cruise proposals will decrease towards a critical level. The identified and proposed action items were summarized in a short report and contained the following:

- Training course “All you need to know on preparing and carrying out scientific cruises
- Offering spare berths on planned cruises
- Dedicated young scientists call for transit research proposals
- Set up of a mentoring scheme with experienced cruise scientists

Among the various comments from SAB members to this proposal there was the suggestion, that young scientists should assist senior scientist in the development and editing of a cruise proposal and after successful evaluation and ranking both jointly leading the cruise (co-chief scientist principle). A more critical comment of a French SAB member concerned the French evaluation process. It takes by far too much time from positive evaluation and ranking and the execution of the cruise. This fact is very much frustrating for young scientists, often on time-contracts, and therefore demotivating.

Recommendations: The SAB was very positive about the proposed action items and encourages the responsible authorities in France to implement them. The SAB strongly recommends that the bureaucracy from application to implementation must be streamlined, not only for young but also for senior scientists.

Presentation by the WG of the scientific needs for the RV Antea rejuvenation: *Jean François Ternon and Jacques Grelet*

J.F. Ternon presented the outcome of a working group assessment on the modernization of the RV "Antea". This mid-life upgrade of the "Antea" (commissioned in 1995), planned as part of the Fleet Modernization Plan, will take place at the end of 2021 - beginning of 2022 with, in parallel, the planned decommissioning of the RV "ALIS" at the end of 2022. The modernized "Antea" will be positioned in the Pacific at the end of 2022 until the entry into service of a replacement vessel for "Alis" (horizon 2025-2026). The modernization should also allow the renewal of scientific equipment dating from the commissioning of the vessel (for example: wideband acoustic sounders). The working group report finally summarized that modernization work has also to be considered for interior fittings (for example: dry lab, wet lab, scientific PC, "cold" storage capacity) and exterior (for example: moon-pool for CTD). In addition, improvements are being considered to improve the stability of the ship and reduce its environmental impact. With the given budget of 1.1 Mio. Euros for this modernization work package the SAB was rather sceptic concerning the realization.

Recommendations: The budget for the modernization of "Antea" is too low to carry out all proposed renewals. The SAB recommends that instead of a "shopping-list" a prioritization has to be done.

Progress report on the project "Two deep-sea ROVs scenario": *Jan Opderbeke, Ewen Raugel, Valérie Chavagnac and Pierre-Marie Sarradin*

Valérie Chavagnac together with Jan Opderbeke briefly summarized the progress of the "Two deep-sea ROV scenario". Key aspect is the cable and they expect to receive more information on technical details from cable manufacturers until the end of the year. Optimization of certain electric consumers on "Victor 6000" will gain 3 kW power. Regarding the elevator concept there are still ongoing discussion which direction to go: continue the double wire operation or the development of a maneuverable elevator.

Recommendation: None – the SAB expressed its gratitude to the presenters

Miscellaneous : feedback on OPEXO function – *Goulwen Peltier*

The previous operator of the RV "Marion Dufresne" (IPEV) has introduced a service person (OPEXO) who is in charge of scientific expedition operations. This person is a GENAVIR staff member and coordinates the various teams onboard (science, GENAVIR and crew) and monitors operations on the bridge. SAB members frequently working onboard this vessel appreciate this service function very much because in former times there were sometimes misunderstandings between scientists and crew about certain working routines. This function must be retained.

Date for the next autumn SAB meeting:
October 2021