

REV Ocean

Evaluation and Selection Process for science and solutions projects on board RV *REV Ocean*

1. Science and solutions projects on board RV *REV Ocean*

The overall goal of the projects undertaken on board RV *REV Ocean* is to develop solutions to the ocean challenges identified in the Science and Solutions Programme (SSP). To this aim, REV Ocean will support research and innovation projects on board that will increase significantly data and knowledge on plastic pollution, climate change and overfishing and environmental impacts of fishing. The outputs of the work at sea must provide novel and robust scientific and/or innovation knowledge that will lead towards technological, methodological, policy, training and/or awareness raising solutions through appropriate multi-sectoral collaborations. REV Ocean welcomes “high-risk, high-gain” proposals that address one or more of the research and innovation priorities identified in the SSP. The aim is to support “out of the box” thinking that leverages the best ideas from industry and disciplines not normally associated with marine science with the common goal of finding solutions to ocean challenges.

To ensure that the science supported by REV Ocean is of the highest scientific quality and fits with our scientific, as well as diversity, equity and inclusivity criteria (see below and [REV Ocean’s DEI statement](#)), all scientific projects will be selected through a thorough and transparent international peer-reviewed process. Berths on RV *REV Ocean* for additional activities addressing specific solutions (i.e. technology testing, high-level policy discussions and decisions, capacity development, awareness raising) will be evaluated individually as ideas are presented to the REV Ocean Management Team and Science and Innovation Advisory Board (SIAB). This document describes the selection procedure for the different activities on board RV *REV Ocean* in science and solutions missions.

The REV Ocean Science and Solutions Program (SSP) provides two modes of support for use of the REV Ocean vessel:

1. Peer-review science and solutions proposals
2. Open calls for specific solutions-oriented activities (e.g. technology testing, policy/governance workshop, capacity development, raising awareness)

2. RV *REV Ocean* annual itinerary

The broad itinerary of RV *REV Ocean* will be available on the website with a timeframe of 5 years. A concrete annual itinerary will be published 2 years in advance of the actual sailing (Fig. 1). This detailed itinerary will form the base for the annual Call for Proposals for peer-reviewed science and solutions projects, as well as guidance for the open call. The annual itinerary will be proposed by the REV Ocean Management Team and approved by the REV Ocean Board of Directors following a cruise planning workshop that involves a variety of experts.

3. Call for proposals for peer-reviewed science and solutions projects on board RV *REV Ocean*

The annual call for proposals for science and solutions projects on board RV *REV Ocean* will open after the REV Ocean Board of Directors’ approval of the annual sailing plan (Fig. 1). The call will be advertised through the REV Ocean website and all other REV Ocean communication channels, as well as through the Science and

Innovation Advisory Board (SIAB) and other external international channels (e.g. Deep Ocean Stewardship Initiative, Ocean Decade Challenger 150, IOC-UNESCO, Pink Flamingo Society channels, CORDAP).

The call for proposals will follow a 2-stage process, with a short **expression of interest** (Eoi) followed by an invitation of top ranked Eois to submit a **full proposal**.

3.1. Expressions of interest

Expressions of interest will be accepted as soon as the call is open, for a submission period of 2 months. Eois will be short (2 pages) but clear descriptions of the proposed research, submitted online through the Marine Facilities Planning portal ([MFP](#)).

Eois will be evaluated by the REV Ocean Science and Innovation Board (SIAB) and the REV Ocean Management Team. If necessary, additional experts may be invited to join the evaluation panel. The evaluation process will last 2 months, at the end of which a selection of approximately 30 Eois will be invited to submit full proposals (Fig. 1).

3.2. Full proposals

The call for Full Proposals will be open for 3 months. Full proposals will be submitted online via the MFP. Full proposals will include a research project description of maximum 10 pages written in the template provided in the call, as well as additional information (e.g. study area, timeframe, number of berths, equipment, data management, DEI statement, budget). **Projects must be co-developed with experts from the study region.** REV Ocean can assist in establishing relevant collaborations.

Full proposals will be sent out to international peer review. The reviewers will include regional experts to ensure suitability of the proposed research to the region and use of local expertise and knowledge. The review process will extend over 4 months, and will provide a ranked list of proposals.

The Solutions Coordinator will propose suitable solutions-focused projects that have been submitted through the Open Call (see section 4) and that can be linked to top-ranked science and solutions proposals.

The top-ranked proposals will be evaluated by the SIAB, the Science Team and the Operations Team during an in-person SIAB workshop. The Operations Team will assess the feasibility of the selected projects to ensure they are logistically viable and within the capabilities of the REV Ocean vessel and the annual itinerary. The final selection of projects will be presented to the REV Ocean Management Team. The final list of selected projects will be sent to the Board of Directors for final approval. This final selection process will span over 2 months, after which the Principal Investigators of all submitted proposals will be informed of their success (or lack of).

4. Open call for solutions activities on board RV *REV Ocean*

The REV Ocean Open Call offers an alternative and flexible track for allowing a variety of actors working towards ocean solutions to conduct their activities on board RV *REV Ocean*. Open calls are open (but not limited) to innovators, start-ups, engineering projects, communications and awareness raising, policy makers, educators, and training programmes to place a small number of people on the REV Ocean vessel for testing and validating new technologies and approaches, discussing and deciding upon policy, training the next generation of ocean solutions experts and contributing to bringing the ocean to society.

Such proposals may be submitted at any time through the MFP (Fig. 1). The format will be similar to the Expressions of Interest described above. After submission, the proposed project will be discussed directly with the Solutions Coordinator and other relevant REV Ocean staff. A recommendation as to whether or not to support the project will be forwarded to the Management Team for a final decision, dependent on the proposal's potential as an ocean solution, as well as financial and operational constraints.

As much as possible, the project proposals and ideas received through the Open Call will be linked to projects selected through the peer-review process (see section 3) when there are clear synergies amongst projects. However, support for projects submitted through the Open Call will not be strictly dependent on direct links to peer-reviewed projects. This provides an alternative route for rapid response by REV Ocean to support projects at the stage of concept development, start-up or for fully operational companies wishing to develop new technologies / products.

5. What we support

Support from REV Ocean principally comprises the use of the vessel and all its equipment ([RV REV Ocean equipment](#)) for the purposes described in the Science and Solutions Programme. This represents a significant financial contribution to ocean science and solutions projects in and of itself, with a typically science cruise costing in the region of several million Euros. Such a significant level of “in kind” funding can be used as matching funding to access funding from other philanthropic organisations, national funding institutions and international governmental funding institutions to cover other costs, such as staff, students and early career researcher salaries, travel and post-cruise analytical costs, amongst others.

REV Ocean will not cover travel costs to/from the vessel, purchase and shipping of lab consumables, shipment of small equipment owned by the participants to/from the vessel, and shipment of samples at the end of the cruise. Post-cruise analytical work and researchers' salaries are not covered by REV Ocean.

The lack of provision of funding to cover additional costs such as flights to/from the ports of embarkation/disembarkation, other costs associated with getting to the ship and costs of transport of small items of equipment and samples, can limit the participation of scientists from the region of operation. This is especially the case for early career researchers and scientists from small island nations and middle- and low-income nations, where obtaining funds to cover the costs of flights and transport of small amounts of equipment (~ 1,000s Euros) may be extremely difficult. Providing support for such costs will be evaluated in an individual basis. The benefit of offering this additional funding to join the vessel will be attracting the best scientists and innovators at a regional or global scale, resulting in more successful science and solution outputs and a more equitable and inclusive REV Ocean programme.

The Management Team will therefore examine the issue of additional financial support for science cruise participation, to ensure diversity, equity and inclusivity in REV Ocean activities. Such costs will be fractional compared to the operational budget of the vessel, but will require decisions on what can and cannot be funded and what the budgetary requirements will be. A proposal for additional financial support will be prepared for the Board of Directors consideration and approval, outlining what should be supported and the budget required.

6. Selection criteria

Below we describe the evaluation criteria that will be used by the international peer-review panel, the Science and Innovation Advisory Board and REV Ocean's Management Team to evaluate and select proposals for shiptime. Science and solutions proposals for shiptime will be evaluated based on criteria under 3 main categories: excellence, impact and implementation (including potential for solutions). Expressions of interest should provide some information on the criteria below, which should be clearly described and justified if invited to submit a full proposal.

6.1. Excellence

Excellence refers to the novelty and/or importance of what your project aims to achieve. Excellence refers to how the proposed research will address current knowledge gaps, showcasing how the project goes beyond the state-of-the-art and contributes to developing solutions to current ocean challenges.

- **Alignment with the REV Ocean Science and Solutions Programme:** how does the proposed research address one or more of the REV Ocean priority areas?
- **Clarity of the project's scientific / technical goal and objectives:** what is the purpose of the work to be conducted at sea; why it is important in relation to background knowledge on the topic; why now?
- **Clarity of post-cruise analyses:** how will post-cruise sample and data processing lead/contribute to ocean solutions?
- **Multidisciplinary proposals:** proposals should involve multiple institutions with applicants from different disciplines.
- **Co-design and co-development of proposals:** all proposals must be co-designed and co-developed with experts from the region. If the applicant does not have the relevant contacts, REV Ocean can help finding suitable collaborators.
- **Early Career Researchers (ECRs):** show clear involvement of ECRs in all stages of the proposed work, including proposal preparation, work at sea and post-cruise analyses and publishing.
- **Originality, creativity and innovation:** to which extent does the proposed work go beyond the state of the art?
- **Ambition:** "high-risk for high reward" proposals that are bold in terms of addressing one or more of the priority ocean challenges identified in the SSP are encouraged.
- **Innovation / "craziness" factor:** "Out of the box" thinking that leverages the best ideas from industries and disciplines not normally associated with marine science (e.g. governance, technology, education, awareness raising, arts).

6.2. Implementation

Implementation refers to the quality and effectiveness of the work plan, both at sea and post-cruise, including additional work and collaborations with experts from other sectors to develop solutions that use the knowledge acquired at sea.

- **Proposed methodology:** coherence of plan of work at sea, including appropriateness of geographic location, equipment, number of berths, cruise length and timing.
- **Post-cruise analyses:** coherence and feasibility of proposed sample and data analyses, including available resources to conduct such work.
- **Participants expertise:** capacity and role of each participant and the extent to which the consortium as a whole brings together the necessary expertise.
- **Multidisciplinary/multi-sectorial collaborations:** proposed pathways to collaborate, at sea or pre/post-cruise, with experts from different backgrounds to ensure new knowledge is transformed into ocean solutions.
- **Data management plan:** detailed description of the measures taken to make all collected data open access following FAIR (Findable, Accessible, Interoperable and Reusable) principles within the specific timelines specified in the REV Ocean SSP.
- **Risk:** assessment of the risks that may hinder success in achieving the proposed outputs and outcomes. Note that high-risk/high-gain proposals are encouraged, but proposed measures to minimise risk should be described.
- **Diversity, Equity and inclusivity (DEI):** measures included to ensure the proposed work is conducted under the REV Ocean DEI statement. This should include, but is not limited to, the co-development and co-implementation of the project with regional experts; acknowledgment of cultural/religious context and needs when relevant; continuous collaborations post-cruise with regional experts, including in data management and publications; zero tolerance to any racial, ethnic, gender or any other type of discrimination or bullying.
- **Budget:** appropriateness of the budget and available resources to participate in the research cruise (e.g. transport to/from vessel, shipment of samples, etc) and achieve the proposed post-cruise analyses and products. This can include own funding (e.g. scientists' salaries, travel, mobilization, laboratory consumables and equipment, etc) and applications for additional support through other national, international and philanthropic funding sources (e.g. travel, shipping of equipment, public or private funding for post-cruise analyses, PhD or MSc grants).
- **REV Ocean added value:** How uniquely positioned is REV Ocean to enable this project?

6.3. Impact

Impact refers to the suitability and credibility of the proposed pathways to achieve the expected outcomes of developing ocean solutions within the priority areas of the REV Ocean SSP.

- **Exploitation plan:** proposed measures to develop solutions, directly during work at sea or through collaborations with different actors (e.g. technology, policy and governance, training and/or awareness raising) to develop and implement ocean solutions.
- **Innovation:** potential for new scientific concepts and/or solutions for existing, emerging and even future ocean challenges.
- **Blue growth:** potential for expected outputs to strengthen growth and competitiveness of businesses/companies developing or applying solutions to ocean challenges.

- **Governance:** potential for expected outcomes to contribute to the development or implementation of international treaties and conventions (e.g. UN Sustainable Development Goals; UN High Seas Treaty; CBD-Kunming-Montreal Global Biodiversity Framework; UN Global Plastics Treaty; UN Paris Agreement on Climate Change, UN Fish Stocks Agreement) as well as the development and implementation of regional and local agreements and policies.
- **Scaling:** the proposed pathways for impact include ideas for transformational change, scaling, and practical application / implementation of research.
- **Dissemination:** Quality of the dissemination and communication plan to different audiences, including provisions for output dissemination to local and regional audiences. REV Ocean can assist with communications during the cruise and with relevant contacts from the study region.
- **Education:** plans for educational activities both on board and on shore.

