



CSA
OCEANS
JPI Oceans support action


SEVENTH FRAMEWORK
PROGRAMME

Foresight Exercise Test Run

Experiences from the field of Microplastics



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1. INTRODUCTION

In the context of the CSA Oceans project a foresight test run was carried out between June 2013 and October 2014 in the field of microplastics. The aim of the test run was to outline current trends and challenges in microplastics research, identify future research priorities in the field, thereby developing a roadmap for microplastics research for Europe. By applying the proposal for a foresight procedure (deliverable *D7.2 Proposal for a Programmatic Foresight Procedure*) to a specific field of research, the test run was ultimately employed in order to develop a transferable model for identifying future research priorities for JPI Oceans, which balances transparency and inclusiveness with procedural and cost efficiency.

2. THE TEST RUN

INSTIGATION OF THE FORESIGHT EXERCISE

The Management Board of JPI Oceans endorsed the proposal to instigate the test run in the field of microplastics during its 4th meeting in February 2013 in Dublin. The rationale for using microplastics as a case study was that a number of member countries had expressed an interest in launching a pilot action on microplastics within JPI Oceans, i.e. an early action designed to test out new tools for cooperation. The foresight test run could therefore serve the further development of the pilot action. Moreover, as pilot actions are only of limited duration, the foresight process was seen as a means to look at issues beyond those covered in the pilot action, thus embedding the action in a wider and more long-term strategy.

SCOPING AND INPUT

Following the instigation of the foresight exercise, the preparation of a foresight workshop started. 19 experts in the field of microplastics from academia, science, industry, civil society and the policy-making community were invited to this workshop. The participants were on the one hand national experts nominated by member countries interested in the topic area, in order to ensure that knowledge about national strategies was brought into the foresight exercise and thus generating buy-in from the member countries. Further experts were invited on the other hand in order to complement the available expertise and broaden the diversity of the participants (most nationally nominated experts were researchers with a natural science background).

To prepare a common understanding among the participants and create a starting point for the workshop discussions, an interdisciplinary background paper entitled “Microplastics research: Building Knowledge for Solutions” was drafted by law research Aleke Stöfen (University of Trier, Germany) and ecotoxicologist Heather Leslie (VU Universtiy Amsterdam, the Netherlands).

FORESIGHT WORKSHOP

The foresight workshop was held on 20 November 2013 at the JPI Oceans Secretariat in Brussels. The aim of the workshop was to engage participants to debate critically and creatively about current

trends and future needs in order to identify priorities for microplastics research. Moderated by KDM and with guidance from foresight expert Laura Pombo-Juárez (Impetu Solutions), the workshop was split into three sessions including small break-out groups and plenary discussions. The first session sought to elucidate why microplastics in the oceans should be of societal concern. In particular, participants were asked to outline why the growing number of plastic particles in the marine environment were a cause for concern, for instance, in terms of environmental, economic, health reasons, etc. The second session aimed to analyse and project the main trends and challenges related to microplastics until the year 2035 (a “generation target”). On the basis of this analysis, the third session identified and prioritised research areas. The experts were encouraged to discuss which research challenges and problems ought to be tackled on a priority basis.



Figure 1 Microplastics Foresight Experts Workshop, 20 November 2013 in Brussels

OUTPUTS: RESEARCH RECOMMENDATIONS

The workshop identified four research areas for microplastics that participants recommended JPI Oceans address. First, research into the identification, quantification and distribution of microplastic particles, including the development of standardised analytical methods and monitoring, in order to better understand the scope of the problem at hand. Second, research into the effects of microplastics on marine organisms and their impacts on populations, ecosystems and biodiversity as well as eventual consequences for human beings to better assess the severity of the problem. Third, the workshop highlighted the need to develop a risk assessment framework for microplastics, in particular with a view of policy needs. And finally, research into possible mitigation measures was needed in order to start developing solutions.

These recommendations were summed up in more detail in deliverable D7.3 *What role for research concerning Microplastics in the Oceans? Foresight Experts Workshop Report*. Subsequently, they

were presented to research funders at a JPI Oceans microplastics pilot action meeting (27 February 2014, Berlin), which brought together representatives from those countries interested in conducting joint activities at European level in the topic area.

Originally, it was envisaged to hold another workshop between the microplastics experts and research funders. However, it was decided that such a joint meeting was no longer necessary, since the first workshop had generated enough information to be used by the research funders. Moreover, it was questioned whether it would be adequate to expect the experts to travel again, in particular because several of the invited experts expressed that they were not completely sure what to expect as outcomes from their involvement. Given that the foresight process and the pilot action were the first of its kind in JPI Oceans and JPI Oceans had not implemented any other joint activities which could serve as reference point, the concerns were understandable.

3. OUTCOMES

The recommendations from the foresight exercise were used to feed input into the development of the JPI Oceans pilot action on microplastics. In particular, they helped to inform and guide the development of a joint call and served as a basis for a workshop for the research community. However, the foresight exercise also assisted the development of further networking activities.

JOINT CALL ON MICROPLASTICS

On 10 January 2015, 10 member countries of JPI Oceans (BE, DE, ES, FR, IE, IT, NL, NO, PT, SE) launched a joint call on microplastics. The call has an overall budget of approximately 7.5 million Euro and will be used to fund transnational research projects. The call comprises three main themes:

- Validation and harmonisation of analytical methods (interlaboratory study)
- Identification and quantification of microplastics
- Eco-toxicological effects of microplastic – impact on marine organisms

The foresight exercise not only helped to convince the funders from these ten countries to allocate resources to a joint call, it also shaped the thematic orientation of the joint call. Two out of the four recommended research areas were explicitly taken up by the research funders in the design of the call.

SCIENTIFIC RISK ASSESSMENT WORKSHOP

On 13-15 January 2015, Ghent University, with the support of the Department of Economy, Science and Innovation of the Flemish Government (Belgium) and on behalf of JPI Oceans, hosted an international scientific experts' workshop on microplastics. The aim of the workshop was to develop best practices for a risk assessment framework for microplastics. Using the recommendations from the foresight workshop as input, the workshop looked in particular at guidelines for risk assessment and at ways forward, which will be summarised in a report to be published in spring 2015.

While the joint call addressed the first and second microplastics research areas recommended in the foresight exercise, the workshop thus looked at the third research area. Moreover, within JPI Oceans the idea of taking action with regards to the fourth research area, mitigation actions, has already been raised, as first tentative discussions on whether technology for cleaning up plastics have taken place.

MARIE SKLODOWSKA-CURIE NETWORK

In addition to the JPI Oceans activities, a group of microplastics researchers submitted a proposal for Marie Sklodowska-Curie Innovative Training Network under Horizon 2020 in early 2015. The majority of the participants in the proposal were participants in the foresight exercise. Moreover, the proposers have also asked JPI Oceans to become a (non-academic) partner in the network. While it would be hard to prove any direct causation, it would not be far-fetched to assume that the foresight process has at least assisted in bringing the researchers together and forging such a network.

4. LESSONS LEARNT & RECOMMENDATIONS

Overall, the foresight exercise test run fulfilled its objectives. By bringing together experts from a variety of backgrounds, it managed to identify and recommend strategic research priorities for microplastics which were taken up in the development and orientation of the JPI Oceans pilot action on microplastics, and beyond. As such it helped to embed the pilot action in a wider debate and strategy. Moreover, the test run demonstrated that the iterative and inclusive model developed in deliverable D7.2 is workable, effective and cost-efficient and can thus serve as a blueprint for future (thematic) foresight exercises.

The feedback collected from the participants¹ of the foresight exercise confirms this assessment. All respondents expressed their satisfaction with the process overall. In particular, all respondents found the background material provided useful and that the workshop was conducive to raising and discussing new ideas about microplastics. Participants found the discussion in small groups and among participants from different background particularly stimulating. Several respondents actually suggested inviting an even more diverse group of participants. This recommendation confirms the necessity of bridging disciplinary boundaries and it is recommended that JPI Oceans should pay even greater attention to inviting wide range of stakeholders in the future.

Due to the good experience from the foresight process and the positive feedback received from the participants, the CSA Oceans project would recommend that JPI Oceans use further foresight exercises in the future to develop its activities and devise long-term strategies for research in Europe.

¹ Participants of the foresight workshop were asked to fill out a feedback form (see annex I).

FORESIGHT WORKSHOP FEEDBACK FORM

The ultimate aim of our foresight work is to design a transparent, inclusive, effective and efficient framework to identify key research issues related to the healthy and productive development of our seas and oceans. We are seeking to develop a transferable model to identify future research priorities. The foresight exercise on micro-plastics serves as a test case from which we are trying to learn as much as possible. We would, therefore, greatly appreciate your feedback so that we can adapt and improve our foresight procedure accordingly. Of particular interest to us will be your opinion on the workshop format, set-up and material provided. Any other comments are also appreciated.

Q1. Was the workshop format (division into sessions, small groups, etc.) conducive to raising and discussing new ideas about micro-plastics?

Q2. Was the set-up of the workshop (e.g. location, number and type of participants, etc.) appropriate?

Q3. Was sufficient and adequate material provided as background to the discussion?

Q4. Is there anything which, in your opinion, should be changed to improve the workshop experience?