



MERMAID

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Guidelines for project developers and policy-makers

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1 Summary

- European oceans will be subject to massive development of marine infrastructures.
- MERMAID developed concepts for the next generation of offshore platforms which can be used for multiple purposes, including energy extraction, aquaculture and platform related transport.
- The principles of Maritime Spatial Planning state that a participatory approach is key to the sustainable development.
- This report is based on the lessons learned in the participatory design process employed in MERMAID and the collective input from participants in the MERMAID project.
- It provides recommendations to future project developers and policy-makers.

2 The MERMAID project

2.1 Introduction

In the near future, the European oceans will be subject to massive development of marine infrastructures. This includes offshore wind farms, constructions for marine aquaculture and the exploitation of wave energy. The development of these facilities will increase the need for marine infrastructures to support their installation and operation and will unavoidably exert environmental pressures on the oceans and marine ecosystems. It is crucial that economic costs, use of marine space and environmental impacts of these activities remain within acceptable limits. Offshore platforms that combine multiple functions within the same infrastructure are expected to offer significant economic and environmental benefits.

MERMAID ("Innovative Multi-purpose off-shore platforms: planning, design and operation") developed concepts for the next generation of offshore platforms which can be used for multiple purposes, including energy extraction, aquaculture and platform related transport. It was one of three EU-FP7 funded projects selected for funding in response to Ocean of Tomorrow 2011 on multi-use offshore platforms (FP7-OCEAN.2011-1 "Multi-use offshore platforms") and was carried out during the period 2012 – 2015. The other two related projects are Tropos ("Modular Multi-use Deep Water Offshore Platform Harnessing and Servicing Mediterranean, Subtropical and Tropical Marine and Maritime Resources") and H2Ocean ("Development of a wind-wave power open-sea platform equipped for hydrogen generation with support for multiple users of energy").

The MERMAID project focussed on four specific sites in European waters with different characteristics and different foreseen uses (see also Figure 1):

- Baltic Sea – Kriegers Flak, an estuarine site, with a focus on offshore wind and fish aquaculture.
- North Sea – Gemini location 85 km north of the Dutch coast, an active morphology site, with a focus on offshore wind and mussel and seaweed aquaculture.
- Atlantic – Cantabrian Offshore Site, a deep water site, with a focus on wave energy and offshore wind.
- Mediterranean – Adriatic Sea off Venice, a sheltered site, with a focus on fish aquaculture and offshore wind.

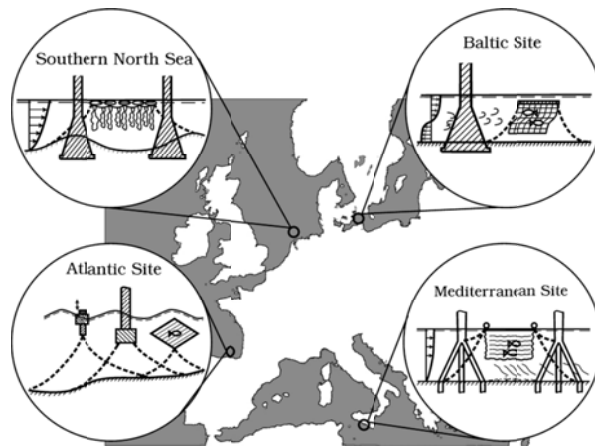


Figure 1: The four sites in the MERMAID project.

When discussing offshore multi-use platforms it was necessary to be aware of the definitions used in MERMAID. In the interaction with stakeholders, our points of departure were:

- Dual use is already enough to consider having a multi-use, therefore it is not necessary to have 3 or more uses.
- Multi-uses are not necessarily physically combined (e.g. through shared anchors, constructions et cetera), shared use of space is also considered multi-use.

2.2 MERMAID's participatory design process

In line with the concept of Maritime Spatial Planning, the heart of MERMAID was a design process in which various private and public stakeholders actively participated. The participatory design was developed to involve stakeholders in the process of designing the multi-use platforms. Two principles underlie this approach. First, the principle of social learning states that in complex and uncertain search processes for sustainable designs with no ready-made solutions at hand, one should experiment in a social environment. Through interaction with other actors one can learn from each other (Bandura, 1971; Webler et al., 1995). Secondly, the principle of non-linear knowledge generation acknowledges that knowledge is developed in a complex, interactive process of co-production with a range of stakeholders involved (Gibbons et al., 1994; Rip, 2000; Hessels and van Lente, 2008).

Figure 2 gives an overview of the participatory design process, which was applied in these four case studies in the MERMAID project. The design process of multi-use platforms in each of the four cases was organised in three steps:

1. Prepare the designs by identifying the views and needs of all the selected stakeholders with interviews (results are reported in Rasenberg et al., 2013).
2. Designing the multi-use platforms by organising a round table session involving all stakeholders (results are reported in Rasenberg et al., 2014).
3. Evaluate the design by organising a round table session with all stakeholders (results are reported in Rockmann et al., 2015).

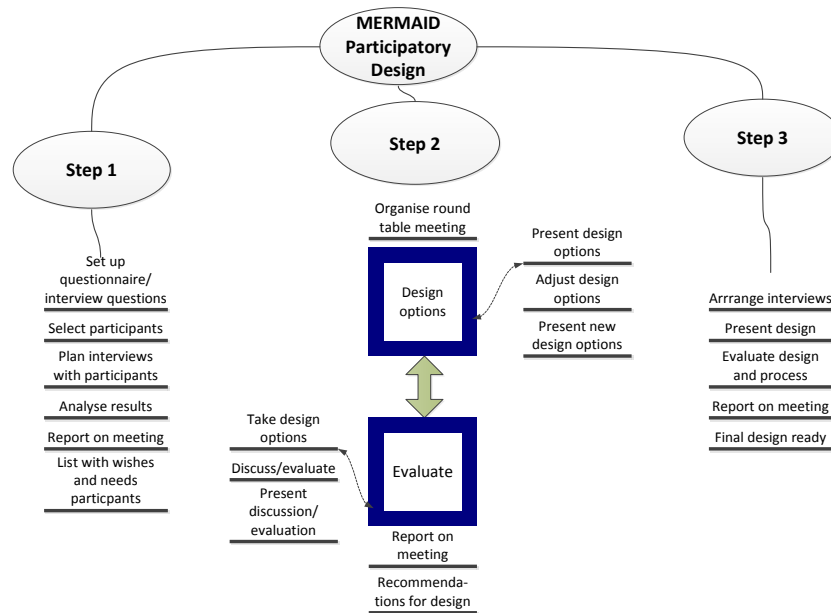


Figure 2: Overview of the MERMAID participatory design process.

Central in this approach are the interviews in step 1 with all the selected stakeholders, the round table session in step 2 and the evaluative interviews in step 3. In these round table sessions, the design was discussed and adapted, as much as possible according to the wishes of all stakeholders involved. A group of representatives of all major types of stakeholders were invited for the interviews and round table sessions, where six stakeholder categories were identified:

- Governing bodies/policy makers such as regional, national and European officers
- End users of the multi-use platforms, e.g. energy companies and aquaculture entrepreneurs
- Suppliers of the multi-use platforms such as cable companies and construction businesses
- Representatives of other offshore activities such as fisheries, shipping, and mining sectors
- Discourse community, including e.g. (environmental) NGO's, local citizens
- Universities and research institutes

Step 1 took place in 2012: here, interviews were held with representatives of a wide range of stakeholders. The interviews focussed on identification of different views on ecological, economic and social objectives of multi-use platforms, the challenges and the technical, social-economic and ecological constraints faced.

After step 1, the designers of each of the case studies made one or more design options based on technical feasibility and the earlier wishes expressed by the stakeholders. Equipped with a resulting 'wish list' from this step, designers started working on developing the first multi-use platform design options. These options for design(s) were discussed with the stakeholders in step 2 of the participatory approach. These round tables represent an iterative cycle where draft design options were presented, stakeholders were asked for their feedback and further input, and designs were further developed. Involving stakeholders in the design process aimed at reaching agreement on the most feasible design in each of the case studies, taking into account the technical, economic, ecological, spatial and social possibilities in a complex, interactive process. Based on the discussions in step 1 and step 2 on ecological, economic, social, technical and governance aspects,

the design options were translated into a final design concept, which are presented in Koundouri et al. (2014).

Step 3 included the evaluation of the resulting design with the participating stakeholders, carried out through interviews. This led to a design concept which is thoroughly analysed, technically feasible and preferably supported by all the stakeholders represented at the round table (reported in Rockmann et al, 2015).

2.3 Formulation of recommendations

This deliverable (D2.5) is the end result of the working task W.T. 2.4. The participatory design process designed by WP2 interacted with the conceptual, technical and operational design in other work packages to lead to actual innovative design concepts for multi-use platforms. It provided new insights into how to proceed as a project developer (companies, investors, governments and large utilities) looking to develop a multi-use platform.

The objective of this task is to learn from the experiences in MERMAID on the interactive design process. The aim is to formulate guidelines for future project developers on the setup of such a process. Hence, we chose to present the guidelines in a brochure-like manner. The focus of the recommendations below is not on the actual design concepts or technology, but rather on best practices and strategies for a participatory design process.

This report aims at two different actor categories that have a stake in the future development of multi-use platforms. This is:

- Project developers: business and investors who are active in the maritime business sectors and/or with an interest in Blue Growth.
- Policy-makers: European, national and local policy makers for whom multi-use platforms can contribute to achieving policy objectives.

The recommendations were formulated on the basis of an online survey held among the MERMAID participants (academic and corporate) end of 2014. Annex I gives a detailed description of the methodology and the process of formulating recommendations can be found in Annex I, and Annex II shows the questionnaire used in the survey.

3 Recommendations to project developers

This section presents advices to future developers to facilitate future processes of development and implementation of offshore multi-use platforms. With these the recommendations, MERMAID aims to contribute to the successful design of sustainable and efficient multi-use platforms.

3.1 Attend to the specificity of the site

Site conditions should be “*considered thoroughly, at the start of the design process to find the best location for multi-use platforms installation*”. Design of multi-use platforms must be site-specific to enable optimization of multiple uses. The MERMAID project set out to investigate possibilities to mainly combine offshore energy extraction and aquaculture. In this process, it is necessary to recognize that local conditions are important and often extremely specific. Not only does the

feasibility of uses vary per site, each site also requires different technological solutions to allow for optimal combination of uses. Regarding the Atlantic site, significant water depth limits the applicability of energy extraction, thus only floating devices are taken into account. Additionally, the harsh conditions in Atlantic restrain possibilities of aquaculture. For the Mediterranean site, the absence of strong winds affected the design of multi-use platforms. Local availability of markets for food and energy, and other financial aspects are also a part of the site-specificity.

It is important to analyse local site conditions early in the project. If the specifics of the site are not taken into account, there is a risk of focusing on non-viable concepts that do not fit in the local situation. Different negative consequences on the economic, social and / or environmental domains might be expected, also compromising the perception of reliability of this type of projects. It is not advisable to ‘copy’ solutions from other sites, without looking at its suitability, differences and specificities; *“don’t force uses in a site that are not adequate to that site”*. Knowledge of site conditions is crucial for specific design and for a proper calculation of case-by-case production, costs and environmental consequences. Therefore, design according to the specificity of your site.

3.2 Engage the relevant stakeholders

We recommend to *“listen to stakeholders”*; and to involve stakeholders at an early stage to contribute to the design of feasible and accepted multi-use platforms at sea. Several stakeholders can influence the realisation and design of future offshore multi-use platforms. They can provide the process with crucial information for the success of the project and will contribute to enable the project or, on the contrary, to make it unfeasible.

Shared knowledge and experience can contribute to more efficient and sustainable design of offshore multi-use platforms. Additionally, if the developer acknowledges stakeholders’ perspectives, he can surpassing potential obstacles and proceed timely with the design process. On the contrary, no dialogue or not considering stakeholders’ point of view leads to risk of inefficient processes, need to repeat procedures or even sub-optimal solutions.

To engage the relevant stakeholders during the process is it necessary to:

- Identify the relevant stakeholders for your project. Important stakeholders are expected to be business partners, insurance and bank companies, the environmental authorities, local NGOs, local or regional administration and relevant professional associations.
- Identify the role of stakeholders and consider which moments are the best ones for interaction. Limit the number of interactions not to fatigue stakeholders.
- The contribution of stakeholders is dependent on the phase of development. In early stages: accept and take stock of their differing views. In later stages: stakeholders should be asked to pronounce themselves about few and well-defined design options of the offshore multi-use platform.

3.3 Review interdependencies between use-functions carefully

The interaction between different -functions of multi-use platforms comes with different possibilities and risks. These require scrutiny; it is crucial to *“have a full overview of all aspects*

before implementing. It is important to have fully analysed the effects of both synergies and constraints”.

Today, the development of multi-use platforms is still a novelty. Companies are used to single-use; the benefits and risks of multi-use are not always clear. This brings us to a fundamental tension: should one first optimize single-use, and then identify possibilities for co-use, or develop a design for multi-use from the very beginning? Most participants in the MERMAID project argue that project developers should *“focus on optimizing each use and see co-habitation in the same area”*. Multi-use and single-use need to be compared to *“get a clear view of the costs and benefits of multi-use platforms vs the existing single use modules”*.

These suggestions follow from the experience in MERMAID. In a number of cases, the initial focus on multi-use led to studies on combinations of functions that, under current conditions, are not feasible in themselves. This included e.g. offshore fish cultivation in the North Sea and wave and offshore wind energy in the Mediterranean.

Multi-use platforms are attractive if they deliver synergy and financial advantages. Multi-use platforms will bring together new players that are normally not used to work together. This creates a large demand for a thorough risk analysis, both for the planning, construction and operational phases. Based on the experiences in MERMAID, it is argued that in the assessment of synergies and risks, one should:

- Identify benefits but also review scenarios where one of the users cannot perform their normal work and analyse potential knock-on effects.
- Pay attention to Health and Safety, in particular in risk assessment.

3.4 Take advantage of available knowledge and experience

Past and present research projects generate knowledge about multi-use platforms. It is recommended to take stock of this knowledge. This helps taking into account a variety of institutional, technical, environmental, financial and socio-economic aspects and identifying synergies and risks of developing and running multi-use platforms.

The process of developing a multi-use platform at sea is complex and many different aspects must be taken into account. Existing knowledge and experience are beneficial to future projects. This experience not only provides factual data and knowledge, it also illustrates the discourse of different stakeholders and scientific disciplines on multi-use platforms.

The benefit of using available knowledge, experience and awareness is to learn from previous situations, thereby avoiding previous mistakes or difficulties, and taking advantage of previous learning processes. This is based on suggestions from the partners in the MERMAID project: *“Get a clear view of the costs and benefits of the multi-use platform vs the existing single use modules”* and to *“understand how disciplines work, in order to be able to produce an efficient design”*.

Similarly to the MERMAID project, other cross-disciplinary projects, Tropos and H2Ocean, have built up experience during 4 years in which a wide variety of experts and stakeholders shared their knowledge and expressed their views on the development of multi-use platforms, covering distinct domains.

4 Recommendations to policy-makers

In this section, we suggest procedures for policy-makers to facilitate the future processes of development and implementation of multi-use platforms. The following recommendations are intended for policy-makers who want to stimulate the development of multi-use platforms in a successful, sustainable and efficient way.

4.1 Adjust existing policy frameworks to make offshore multi-use platforms possible

“Policy makers should facilitate the setting up of a conducive institutional framework for the future implementation of multi-use platforms.” The recommendation is to create favourable conditions to facilitate the development of feasible, competitive and sustainable multi-use platforms. As already stated, the process of developing a multi-use platform at sea is complex. Uncertainties about the framework for developing, licensing and operating this type of enterprise are aspects that contribute to this complexity.

The development of a clear policy framework to offshore multi-use platform development, including a clear and agile licencing procedure, will make developers more willing to invest in multi-use platforms.

It is suggested here that the policy framework should adhere to the principles of Maritime Spatial Planning to foster sustainable use of maritime space (European Union, 2010). Additionally, it should recognize that site conditions are leading, and that not every combination of functions works in every site. When defining and applying the policy framework, openness to accept innovative solutions and co-existence of uses in offshore environment is advisable. Insisting on preconceived ideas on multi-use can hamper the development of multi-use platforms.

4.2 Create mechanisms for financial support

It is recommended to create mechanisms for financial support to make the investments attractive to developers. Similarly to what generally occurs in land-based innovative technological projects, the start-up of multi-use platforms comes with substantially higher investment costs and risks compared with business-as-usual projects. Under current conditions, financial support is needed for development of offshore multi-use platforms. Participants in MERMAID emphasize that governments should *“use subsidy only as a means to start activity, not to maintain activity. There must be a long term business case without subsidy”*.

The main benefit of creating mechanisms for financial support to development of multi-use platforms is to incentive developers to explore possibilities of this type of investment that otherwise would be much less attractive. Recommendations include the development of financial mechanisms to support the start-up of offshore multi-use platforms to avoid the *“Valley of Death”*. Financial support should benefit pilot projects on the short and medium term to enable investments in the long term. It is advised to avoid subsidies in the long-term, as multi-use platforms should be economically viable in the long-term. Additionally, multi-use platforms should be able to compete with *“conventional”* producers if site conditions are good enough.

Policy-makers can improve long-term economic viability of multi-use platforms by bringing societal benefits into the revenues. If societal benefits justify so, prolonged financial support should be considered.

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4.3 Take advantage of the knowledge from the MERMAID project

Policy-makers are also recommended to take advantage of the knowledge and experience gained in the MERMAID, Tropos and H2Ocean projects. These projects have conducted research, involving different stakeholders, sharing and increasing their knowledge as well as expressing their views regarding the difficulties with the development and implementation of multi-use platforms. It is recommended to get familiar with this knowledge. This helps taking into account a variety of institutional, technical, environmental, financial and socio-economic aspects in maritime spatial planning and for developing policy instruments that can support the development, implementation and running of multi-use platforms.

4.4 Engage stakeholders in policy and planning for multi-use platforms

The recommendation is to engage different stakeholders in spatial planning and when developing policy instruments for offshore multi-use platforms. Several stakeholders affect the policy making process for planning and developing future offshore multi-use platforms. These stakeholders bring in diverse knowledge and competences and have different responsibilities. Important stakeholders are business partners and the potential future developers, environmental authorities, local or regional administration, relevant professional associations, local NGOs, and research institutes. In formal procedures such as impact assessment of plans, programs (Strategic Environmental Assessment) and projects (Environmental Impact Assessment), consultation is already a given.

Stakeholders can provide the process with crucial information for its success: *“When a multi-use platform is developed, transparency, clear and close communication with stakeholders and promotion of good governance practices are essential”*. The involvement of stakeholders in this policy making process will contribute to the project’s societal legitimacy. Shared knowledge and experience can contribute to the design of more efficient, reasonable and sustainable policies for multi-use platforms.

4.5 Assure the protection of the marine ecosystem

The recommendation is to assure protection of the marine ecosystem by licensing procedure based on site-specific environmental studies and guaranteeing the implementation of an environmental monitoring system in the designated marine areas for multi-use platforms development. The base assumption is that the installations and activities related to multi-use platforms will affect the marine ecosystems. It is argued that *“multi-use platforms offshore obviously have an environmental and socio-economic advantage, which can comply with the strict environmental policies in European Union”*.

In order to understand if and how the environment is being affected by the project, and to avoid, minimize and eventually offset the adverse significant negative impacts, an environmental monitoring program is necessary. Depending on the specific uses within the multi-use platforms, the environmental monitoring system could focus on issues such as e.g. spreading of invasive

species, biodiversity, underwater noise and electromagnetic radiation, water pollution, along the lifetime of the project, preceded by environmental baseline studies. Minimizing environmental impact and continued monitoring should not be seen as burden. Instead, they contribute to the social license to operate for multi-use platforms: “*Strict regulations based on ecological concepts and technical innovative engineering can help in achieving acceptable, functioning multi-use platforms*”.

5 Looking forward

The recommendations above summarize the lessons learned on the participatory design process into recommendations for future project developers and policy-makers. MERMAID also generated information on the technical, environmental and economic feasibility of multi-use platforms. This information is presented in the other project deliverables.

The objective of this deliverable is to formulate guidelines for future project developers on the setup of such a process. In this concluding section, these recommendations are presented in the context of a ‘process of development’. Figure 3 sketches an ideal-typical development process for multi-use platforms. Seven necessary steps for the development of multi-use platforms are identified:

1. Strategic planning of marine areas
2. Site selection and preliminary design of multi-use platforms
3. Licensing procedures
4. Design of multi-use platforms and detailed impact studies
5. Construction
6. Environmental monitoring program
7. Operation and maintenance

Each of the recommendation presented previously are represented in the diagram by PM1-PM5 (recommendations to policy makers) and by DM1-DM4 (recommendations to future project developers). The numbering of the recommendations follows the order used in this document.

It is acknowledged that public and private actors have a role in development of multi-use platforms; in early phases the main intervention comes from policy-makers (e.g. Maritime Spatial Planning). As Figure 3 illustrates, each of these steps requires the involvement of stakeholders for approval, provision of data, support and information or funding.

Process of development of multi-use platforms: what, who, when and/or how

PM - Recommendations to policy makers (PM) and future developers (FD)

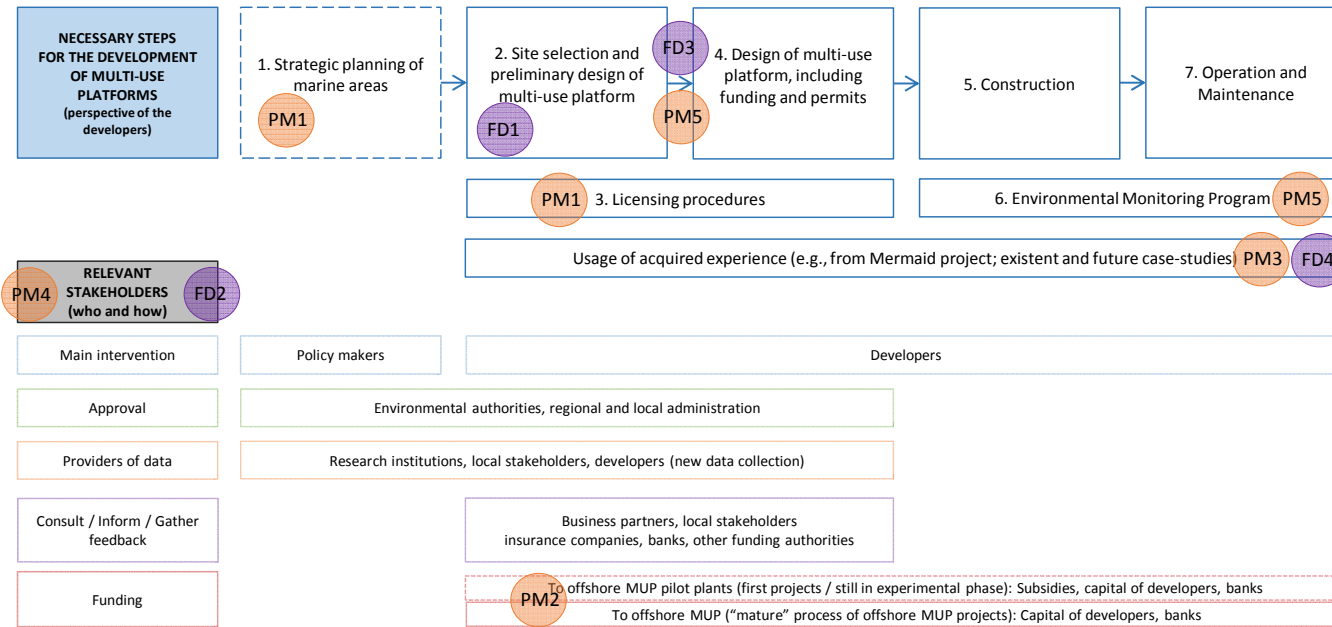


Figure 3: Developing multi-use platforms and the recommendations for project developers and policy-makers.

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Annex I – Methodology for identifying recommendations to future developers and policy-makers

1 Methodology

The recommendations to future developers and policy makers are formulated on the basis of the input provided by members of the MERMAID project. This input was collected by means of an online questionnaire. The outline of the methodology used to identify recommendations is illustrated in Figure A1.

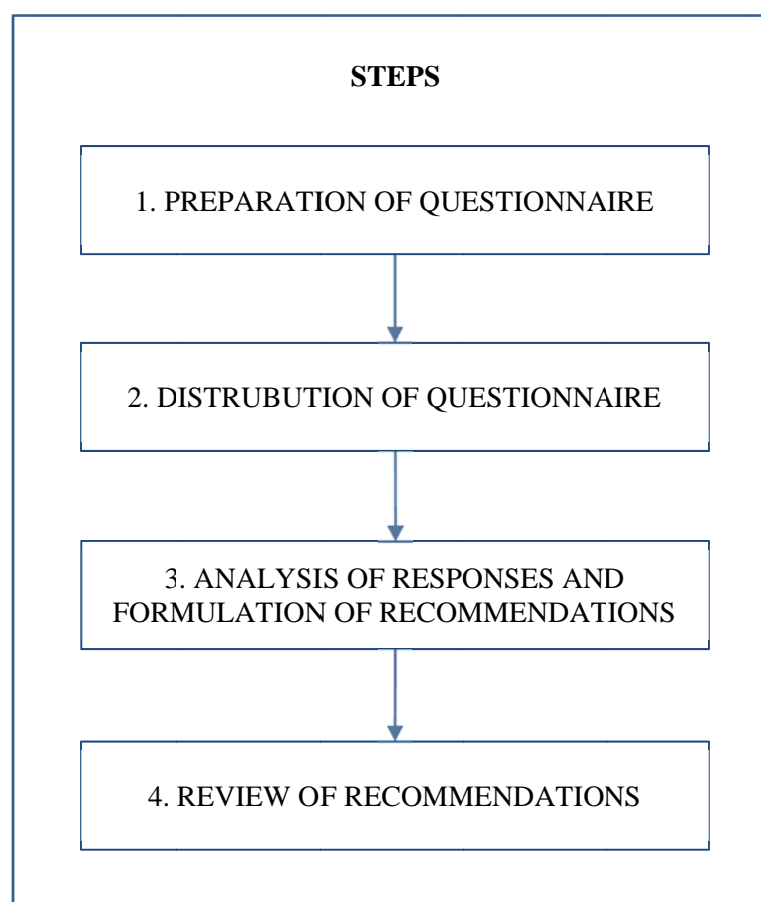


Figure A1: Outline of the methodology used to formulate recommendations.

Step 1. Preparation of the questionnaire

The MERMAID project has participants from different sectors (research, industry, SME), from different disciplines (e.g. economy, biology, engineering, sociology), and from different branches (e.g. energy, aquaculture). The purpose of the questionnaire was to identify the collective experiences, lessons learned and the recommendations from all the participants of the MERMAID

project. Since every participant came into the project with different individual experiences, everyone will have different perspectives on the new knowledge created in the project.

Additionally, the questionnaire containing 13 questions aimed at identifying the different backgrounds, but also which different processes and issues the respondent had been working with in the project (i.e. which case study site, which Work Package), see Table A1. The questions are deliberately formulated in an open manner to try to capture different perspectives. The questions in bold are seen as the most relevant ones for the purpose of the questionnaire.

Table A1: Questions included in the questionnaire (full questionnaire is presented in Annex II)

Number	Question
Q1	What is your name? (Voluntary)
Q2	What is the name of your organization?
Q3	What type of organization do you work for?
Q4	In which Work Package (WP) do you participate?
Q5	What is/are your main task/tasks in MERMAID?
Q6	What case study site in the MERMAID project are you working on?
Q7	What are the three most important lessons you have learned from the MERMAID project?
Q8	To which of the following aspects do your most important lessons learned relate (multiple answers possible)?
Q9	To which of the following sites do your most important lessons learned relate (multiple answers possible)?
Q10	If applicable, what feature of the MERMAID project contributed most to these lessons?
Q11	Based on your own experience from the MERMAID project, what is your main message to future multi-use platform developers?
Q12	Based on your own experience from the MERMAID project, what is your main message to policy makers?
Q13	Do you have additional lessons learned, or comments to make?

Step 2. Distribution of the questionnaire

The questionnaire was created in SelectSurvey which allows respondent to answer the questions online. All MERMAID participants were invited to reply to the questionnaire at the opening plenum session of a project meeting in Bologna (September 2014), and asked to fill it in during the following month. The link was thereafter sent out by e-mail to all – in total 92 - MERMAID participants in September 2014. The E-mail list of all participants was received from the administrative project coordinator.

Step 3. Analysis of the questionnaire and formulation of recommendations

The analysis of the questionnaire was done in two steps:

- i) Calculation of the response ratio for each question and analysis of the profile of the respondents.
- ii) The analysis to arrive at a number of lessons learned and recommendations.

For the questions Q7, Q12 and Q13, the answers were collected and grouped to identify the most relevant different categories. This process was iterative and resulted in the identification of a number of different categories.

The identified categories and the answers obtained for the lessons learned (Q7), messages to future developers (Q11) and messages to policy makers (Q12) were the main inputs when formulating the recommendations. For each recommendation, citations were identified for illustrative purposes, being kept anonymous. Additionally, the MERMAID deliverables reporting on the participatory process were also used as input (Rasenberg et al, 2013; Rasenberg et al, 2014; Rockmann et al, 2015).

Step 4. Review of recommendations

The lessons learned and the recommendations were presented at one plenum session and at one parallel session of a Mermaid project meeting in Elsinore (March 2015). At the end of those sessions, the participants were asked to comment the proposed recommendations, both during the sessions and by sending contributions to an email address provided.

2 Results of the questionnaire analysis

Response ratio and background of respondents

From the 92 questionnaires distributed, 48 were handed in (52%), see Figure A2.

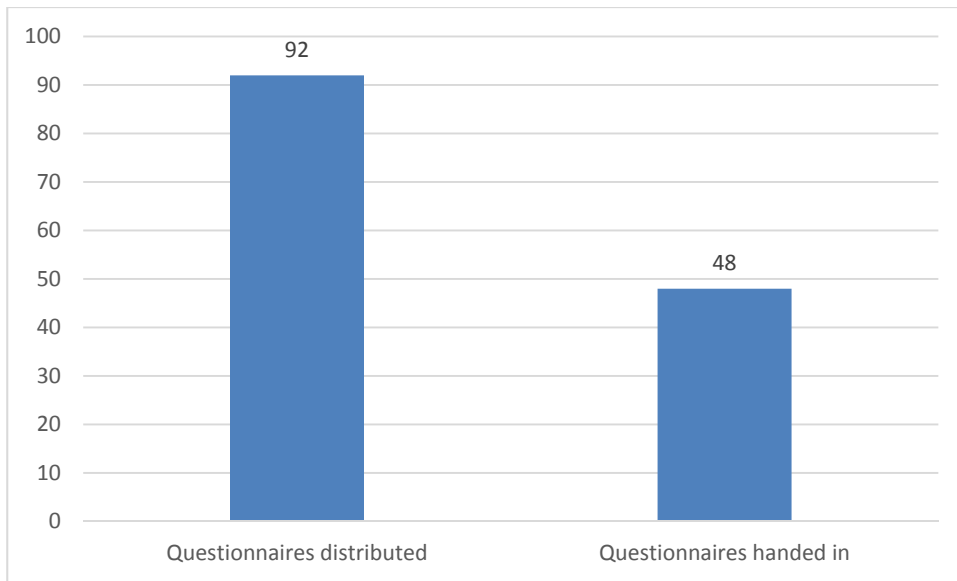


Figure A2: Number of questionnaires distributed and handed in

The response ratio for the different 13 questions of the questionnaire, considering the ones that were actually handed in, varied quite much, see Figure A3. Q3 and Q4 have the highest rate of response (94% and 90%) and Q13 the lowest rate (33%).

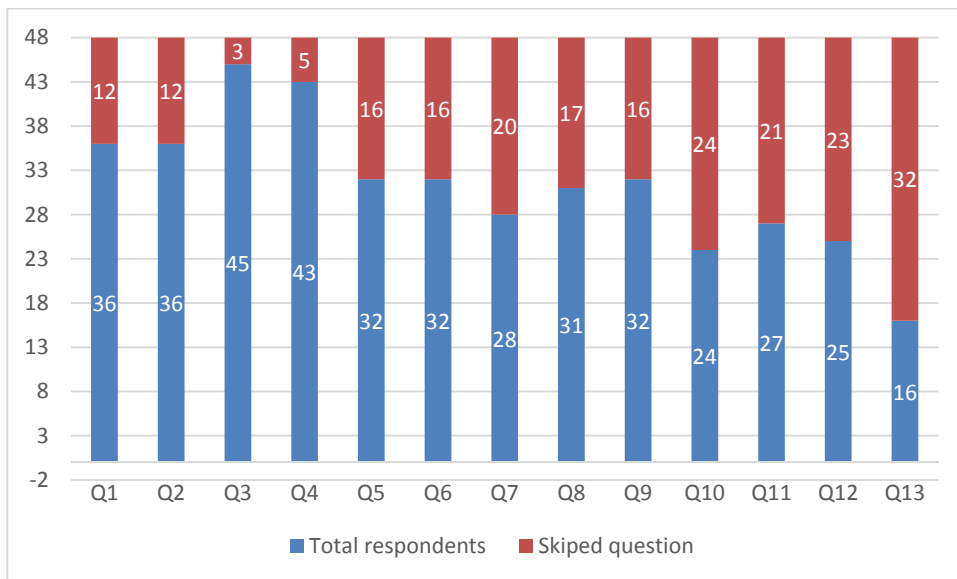


Figure A3: Response ratio for each of the 13 questionnaire questions.

From now on graphs and figures will address the total number of respondents to each question and not the total number of questionnaires distributed.

The profile of the respondents was analysed regarding the type of organization that they represent (Q3), the work packages that they have been contributing to (Q4), as well as the case-studies where they have been involved (Q6), see Figure A4. The graphs for the WPs and sites take into account that respondents often participate in more than one WP and in more than one site, therefore the

number of participants responding to those questions (Q4 with 48 and Q6 with 39) is lower than the sum of all participations within WPs (101 different participations) and sites (52 different participations).

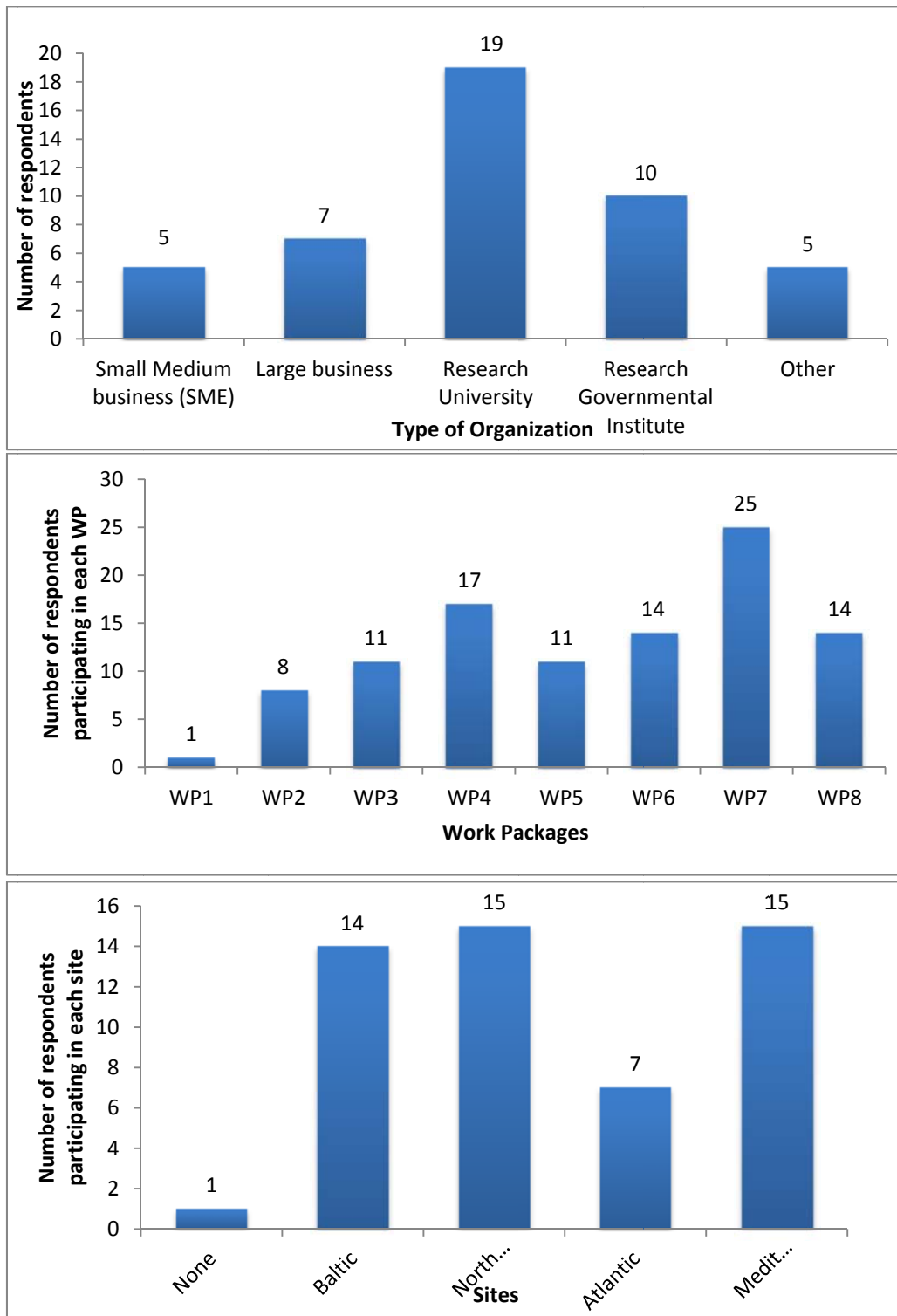


Figure A4: Profile of the respondents

Categorization of responses

From Q7, on “three most important lessons learned”, the iterative process resulted in different categories, see Table A2.

Table A2: Possibilities of categories of lessons learned during the iterative process

Initial categories	Categories reformulated 1	Categories reformulated 2 (final categories)
<ul style="list-style-type: none"> - Personal skills / experiences - Process-related - New knowledge - If I would design a MUP next time I would 	<ul style="list-style-type: none"> - Personal lessons - Project partners and stakeholders aspects - Process itself - Thematic aspects in the process - Frameworks - Data issues - Importance as a case-study - Others 	<ul style="list-style-type: none"> - Partners / Stakeholders - Type of project (MUP) - Sites - On European R&D projects - Personal lessons

Figure A5 illustrates how significant is each one of the categories considered in the later stage of the iteration process. Percentages refer to the total different lessons learned reported (73 ones). Additionally, Table A3 shows the sub-categories considered.

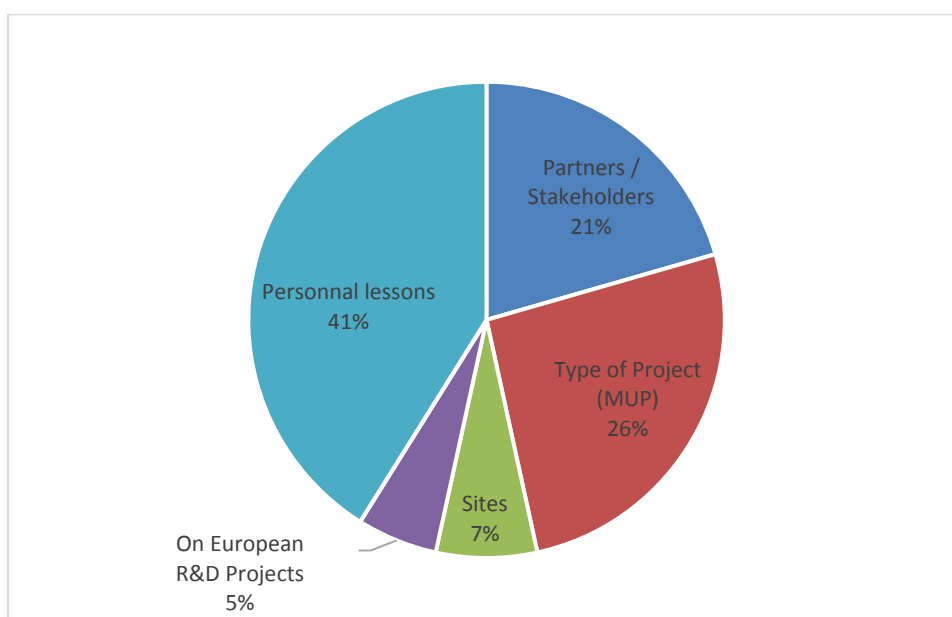


Figure A5: Type of lessons learned (% of total number of lessons learned identified and categorized)

Table A3: Categories of lessons learned and its sub-categories

Category of lessons learned	Sub-category of lessons learned
Partners / stakeholders	<ul style="list-style-type: none"> - Communication and collaboration (15%) - how crucial it is to reach the goals - Profile of participants and nature of work (5%) – important involving relevant ones at the right time
Type of project (MUP)	<ul style="list-style-type: none"> - Present difficulties (11%) - technological state of the art, current policy, business framework and business culture don't facilitate multi-use and business cooperation - Data issues (3%) - care in the gathering and in the organization of both the initial data and the generated data / information - MUP process (10%) - to carefully consider early stages of MUP planning, as they are crucial to a successful project - MUP project (3%) - advises prioritizing the optimization of the production of each use. Full integration in MUPs shouldn't be forced
Sites	<ul style="list-style-type: none"> - Site specificity (5%) - determines the options for a MUP project - Importance of case-studies (1%) - supporting finding realist approaches
On European R&D projects	<ul style="list-style-type: none"> - Benefit when participants with different profiles are gathered, allowing input from different perspectives and know-how (5%)
Personal lessons	<ul style="list-style-type: none"> - Process experienced (11%) - participants experienced different working approaches and got an inside view of the complexity of MUP projects - Increased knowledge about a specific site (5%) - its specificities need to be taken into account in the overall process - Increased knowledge on the type of project (7%) - increased the awareness of and the knowledge on MUP projects and on the different uses that can be combined at a MUP - Increased knowledge about the project possibilities (8%) - Project related (10%) - basic data and specific assessments are crucial for a reliable and sustainable MUP

From question 11 and 12, respectively on messages to future developers and to policy makers, the categorization is shown in Table A4:

Table A4: Categories of messages

Categories of messages to future developers	Categories of messages to policy makers
<ul style="list-style-type: none"> - Studies and technical solution - Partners and stakeholders - Process - Range of aspects to consider 	<ul style="list-style-type: none"> - Feasibility of the solution - Partners to consider, communication and transparency of the process - Framework - Mechanisms to support development - Environmental constraints - Others

Formulating recommendations

By combining the previously obtained, different recommendations to future developers and to policy-makers were defined, see Table A5. Detailed information on these recommendations is found under chapters 2 and 3 of the main document. There, and when relevant, citations from the survey answers are used.

Table A5: Recommendations

Recommendations to future developers	Recommendations to policy-makers
<ul style="list-style-type: none"> - Attend to the specificity of the site - Engage the relevant stakeholders - Review interdependencies between use-functions carefully - Take advantage of available knowledge and experience 	<ul style="list-style-type: none"> - Adjust existing policy frameworks to make offshore multi-use platforms possible - Create mechanisms for financial support to make the investments attractive to developers - Take advantage of the knowledge from the MERMAID project - Engage stakeholders in policy and planning for multi-use platforms - Assure the protection of the maritime ecosystem

Review of recommendations

In the following of the presentation of the recommendations to the project participants, no concrete comments or suggestions were obtained.

3 Discussion and drawbacks

The recommendations formulated and presented in this document might not represent all the concerns and ideas of the project participants. Only approximately half of the participants handed in the questionnaire and the response rate for questions 7, 11 and 12, the most relevant ones when formulating the recommendations, had a percentage of response of 75%, 56% and 52%, meaning that a significant part of the participants did not express their opinion. Additionally, the project participants have not engaged in the review of the recommendations after being presented in March 2015 during one of the Mermaid meetings. For different reasons, such as the ones stated below, their feed-back would have been useful.

On one hand, it could have allowed respondents to:

- Confirm that their suggestions were properly included in the recommendations.
- Review their perspective on the process, therefore complementing or “correcting” the proposed recommendations.

On the other hand, it could have allowed the non-respondents to the questionnaire to state their opinion by adjusting or adding recommendations, or merely by stating that their concerns are already being taken into account. Instead, this was a one-time analysis, not able to catch change of opinion during the process, or question new respondents.

However, since the questionnaire that supported the writing of the recommendations had a significant diversity of answers and covered participants from all the different sites and WP, it is likely that most of the relevant issues are covered.

4 References

Rasenberg, M., Stuiver, M., Van den Burg, S., Veenstra, F., Norrman, J., Söderqvist, T., 2013. Stakeholder Views; Deliverable D2.2, MERMAID project.

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Annex II – Questionnaire

MERMAID: Lessons learned (D2.5)

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MERMAID is a unique project in several respects, but one important aspect is the mix of large and small businesses and other organizations in different sectors, researchers in a wide range of topics (from technology to economics to sociology), NGOs and communicators. MERMAID is a melting pot in a positive sense!

One of the deliverables from WP2 in MERMAID is "Lessons learned - Risks and guidelines for successful development of MUPS" and the target groups for this deliverable are primarily future project developers but also policy makers. These lessons learned should be based on the experience of the participants of the MERMAID project, presented in a short and concise manner. Lessons learned from a business point of view as well as from a research point of view are both highly relevant.

You have received an invitation to answer this questionnaire since you are a MERMAID participant. Your input is crucial since we want all MERMAID participants to contribute to defining the most important lessons learned from the MERMAID project. The working procedure will be as follows:

1. Collection of answers from all MERMAID participants (September 2014).
2. Analysis and first draft of lessons learned ready by March 2015.
3. Collection of input from all MERMAID participants to the draft lessons learned (March 15 - 31, 2015)
4. Revision and final deliverable ready for end-users conference autumn 2015.

The questionnaire will take approximately 10-15 minutes to answer. We look forward to your replies.

Kind regards, on behalf of WP2,
Jenny Norrman, Tore Soderqvist & Sander van den Burg

1. What is your name (leave empty if desired)?

2. What is the name of your organization (leave empty if desired)?

3. What type of organization do you work for (required - tick what suits your organization best)?*

- Small - Medium business (SME)
- Large business (non-SME)
- Research University
- Research Governmental Institute
- Other, specify:

4. In which Work Package (WP) do you participate?

- WP 1
- WP 2
- WP 3
- WP 4
- WP 5
- WP 6
- WP 7
- WP 8

MERMAID: Lessons learned (D2.5)

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5. What is/are your main task/tasks in MERMAID (describe short)?

6. What case study site in the MERMAID project are you working on?

- None
- Baltic
- North Sea
- Atlantic
- Mediterranean

7. What are the three most important lessons you have learned from the MERMAID project?

1.
2.
3.

8. To which of the following aspects do your most important lessons learned relate (multiple answer possible)?

- Technical aspects
- Environmental aspects
- Financial and other business aspects
- Socio-economic aspects
- Stakeholder aspects
- Policy aspects

9. To which of the following sites do your most important lessons learned relate (multiple answer possible)?

- General
- Baltic site
- North Sea site
- Atlantic site
- Mediterranean site

MERMAID: Lessons learned (D2.5)

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10. If applicable, what feature of the MERMAID project contributed most to these lessons?

11. Based on your own experience from the MERMAID project, what is your main message to future multi-use platform developers?

12. Based on your own experience from the MERMAID project, what is your main message to policy makers?

13. Do you have additional lessons learned, or comments to make?

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