CSA
OCEANS 2
JPI Oceans support action

De Moor, Willem
Redd, Thomas
De Raedemaecker, Fien

5.4

Proposal for an Information Management System

Publication Date: 29.07.2016

A Horizon 2020
funded project

Project full title: **Coordination action in support of the implementation of the Joint Programming Initiative on Healthy and Productive Seas and Oceans**
Website: **http://jpi-oceans.eu/csa-oceans-2**

Deliverable number: 5.4
Deliverable name: Proposal for an information management system

WP no: 5
Delivery date: 29 July 2016
Lead Beneficiary: Flanders Marine Institute (VLIZ)
Authors: Willem De Moor, (willem.demoor@vliz.be), Fien De Raedemaecker (fien.deraedemaecker@vliz.be), Tom Redd (tom.redd@vliz.be)
Nature: R

Dissemination Level:

- PU = Public

INTRODUCTION

JPI Oceans will need to implement a long term data and information management system. This will create a legacy for the outcomes of each action and promote several principles of JPI Oceans including open access to data, long-term usability and innovative use of data for interdisciplinary studies.

There are multiple layers of users of information and data within JPI Oceans. Each user group has its own requirements which need to be considered. It is important that any management information system developed is as user friendly and intuitive as possible. It is also important to consider that the users engage with JPI Oceans through a multitude of systems using different hardware and software. The two main areas which should be covered by an information system are:

1. Internal Communications
   - This level needs to cover communications between the Management Board, Strategic Advisory Board and the Secretariat. The information management system needs to allow these users to share documents, plan joint meetings through calendars and effectively manage the actions of JPI Oceans. This is also the level which the Secretariat uses on a daily basis.
   - Partners of JPI Oceans Joint Actions
     - o The needs of this user group are similar to that of the Internal Communications, sharing documents and calendars. As actions progress, this group may also wish to share more complex data and this should also be considered. It is expected that this group of users will be formed of a number of individual project groups working on specific actions. This level will eventually feed into the group below as the actions generate outputs.

2. External communications
   - This is the outward facing aspect of JPI Oceans. It is a tool for anyone to gain information on JPI Oceans, results of actions and data produced by its actions. It may be useful to work in partnership with existing open data initiatives and marine information portals.
   - This component can be divided into Information Sharing and Data Sharing, as these both require separate strategies.

While this is a proposal for an Information Management System for JPI Oceans, it is clear that several components already exist in different states of implementation and this will be taken into consideration.

METHODOLOGY

Developing an Information Management System for JPI Oceans is a complex challenge involving many different user needs and requiring the development of new solutions. The Work Package 5 partners developed a methodical approach to ensure user needs were at the heart of the solution. As such, a 5-step plan was developed (Fig 1).
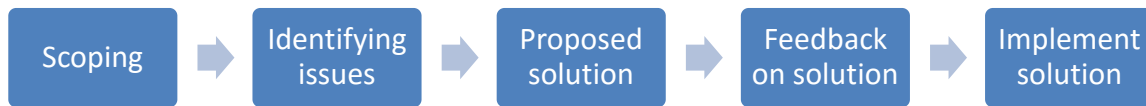
Scoping → Identifying issues → Proposed solution → Feedback on solution → Implement solution

Figure 1: Process for developing an inforamtion management system

Scoping

Work Package 5 partners started by scoping the problem, based on their own experience. This exercise involved looking into the existing systems. This was used to set the agenda for the next step of identifying issues.

Identifying Issues

The next step was to identify issues. The first action taken was to hold a workshop with the secretariat of JPI Oceans. This workshop was used to identify problems with the way that JPI Oceans currently shares information and data, and to also propose potential solutions. Work Package 5 partners also requested the Management Board of JPI Oceans and CSA Oceans 2 partners to highlight any issues and solutions in relation to developing an Information Management System.

Proposing a Solution

Based on the requirements of the Management Board and the secretariat, Work Package 5 developed a proposal for an information management system.

Implementing the solution

The system was implemented iteratively, at key stages of implementation the user groups were consulted to ensure that the final product met their requirements.

IDENTIFYING ISSUES

SECRETARIAT WORKSHOP

In many ways the JPI Oceans secretariat needs to be at the centre of an effective information management system for JPI Oceans. It responsible for managing information at all levels, from daily communications between members to assisting in the development of high level policy briefs. As such, it seemed logical to start the process of developing an information management system with a workshop with the secretariat. The workshop, held on 9 February 2016, had two objectives:

1.   Identify the problems faced by the secretariat in managing information and propose solutions which could be addressed by CSA Oceans.

2.   Identify weaknesses in JPI Oceans information management and sharing and propose solutions which could be addressed by CSA Oceans.

The workshop comprised of a round table discussion in which the participants were invited to discuss both objectives and the outcomes are presented in two sections. The first, Secretarial Issues, looks at the internal problems relevant to the secretariat. The second, JPI Oceans Issues, is the secretariats perception of the information management needs of the whole JPI.

The A report with details of the discussions was written for the meeting (Annex I).

OTHER ISSUES

PROPOSED SOLUTIONS

GENERAL PRINCIPLES

As a general principle WP5 proposes JPI Oceans to have an open and transparent communication in line with the so–called open government approach. This will allow for effective public oversight and optimal use of results of JPI Oceans actions and projects. The proposed approach is also corresponding to the Guidelines on Open Knowledge adopted by JPI Climate and the BONUS EEIG data policy statement.[1]

Open by default. To implement the approach in practice WP5 suggests to adopt as a general principle to publish information on the development of JPI Oceans activities by default on its public website.

Open Access publishing. In line with the above mentioned guidelines WP5 encourages the mandatory publication of research results in Open Access journals, books or proceedings (i.e. "gold" Open Access) and/or self-archiving of subscription-based formats incl. embargos (i.e. "green" Open Access). In accordance to the Berlin Declaration "A complete version of the work and all supplemental materials, (…) including appropriate standard electronic format is deposited (and thus published) in at least one online repository using suitable technical standards (such as the Open Archive definitions) that is supported and maintained by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, inter operability, and long-term archiving."[2] Its recommended therefore that costs related to Open Access are eligible in the budget of activities launched under the framework of JPI Oceans.

Open Data. WP5 recommends that data arising from research funded under the framework of JPI Oceans shall be made publicly available with as few restrictions as possible and with minimum time delay. Therefore WP5 further recommends that the establishment of Data Management Plans (DMP) shall be a requirement in actions and projects funded under the framework of JPI Oceans. For the storage of data it is advised to use common databases, such as SeaDataNet, Pangea, ICES and EMODnet. To enable the evaluation of the impact of the projects, it is recommended that metadata shall be submitted to the JPI Oceans Secretariat as an obligatory part of the projects' annual reporting.

---

[1] SANCHO REINOSO, A.HELGENBERG, S. (2015) JPI Climate Guidelines on Open Knowledge. Improving the societal benefit of climate research activities, JPI Climate.

The BONUS EEIG data policy statement (2012), BONUS EEIG.

[2] Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities. (2003).

Open licensing. The use of the Creative Commons "Attribution" license (CC-BY) and the "public domain" license (CC0) is recommended for documents published by JPI Oceans and the research results and data (including meta-data) resulting from projects funded under the framework of JPI Oceans

INTERNAL COMMUNICATIONS

Since its launch JPI Oceans has relied on the software and facilities provided by the Research Council of Norway (RCN) for its international communications. A Microsoft Sharepoint extranet was set up for internal document sharing within the JPI Oceans secretariat and between the different governance bodies. Due to an update of the RCN software in 2016 the extranet was transferred to Microsoft Sharepoint online.

After reviewing several options, WP5 proposes to continue to use Microsoft Sharepoint for internal document sharing within the JPI Oceans secretariat and between the different governance bodies. Currently these services are still governed and financed by RCN. However as JPI Oceans will in the future operate under a legal entity under Belgian law there will be an option to have a seamless transfer of the software to this new legal entity. Within the extranet it is proposed to introduce new folders for each of the actions and projects developed and financed under the framework of JPI Oceans. Under these folders all internal information on the development and progress of the actions will be stored in a uniform format.

EXTERNAL COMMUNICATIONS

PROJECT AND ACTION INFORMATION

The number of actions in JPI Oceans has increased rapidly since the publication of the Strategic Research and Innovation Agenda (SRIA) in 2015; there are currently 14 ongoing actions. It has become increasingly clear that JPI Oceans needs a way of tracking the activities and updates of its actions in a consistent way. The framework for an Operational Plan for the actions was first proposed in 2015, but efforts to create a comprehensive yet user friendly system was not realised.

WP5 partners proposed to build on the framework of the Operational Plan to create an online tool for holding the relevant information and providing a user friendly interface to access it. The tool is based on the hierarchy of JPI Oceans of having actions running within the Strategic Areas of the SRIA, it also creates a layer to store information about project running within each action. The tool is flexible, in that it allows an action to run in multiple strategic areas, as this the reality of some actions in JPI Oceans.

WP5 partners created a database of actions and projects which is integrated into the website of JPI Oceans. The database has a number of fields based on the Operational Plan, the full list of fields is shown in Annex II. A dynamic search tool was also created (Fig 2). The search tool allows users to refine the list of actions based on their required criteria. WP5 partners considered how different user groups might use the search tool in different ways to develop something which is multifunctional.
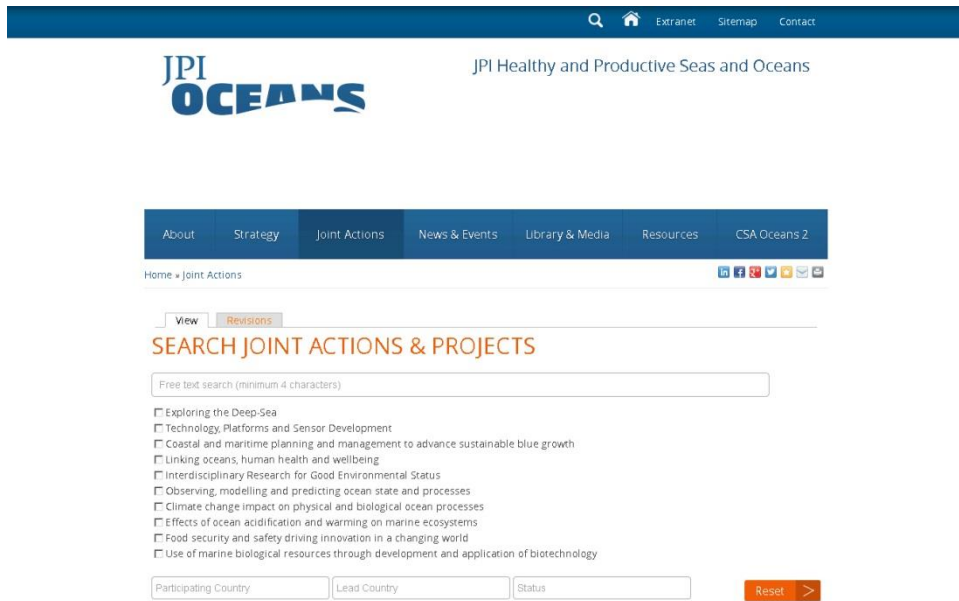
Figure 2: Search function for the online tool

A key feature of the search tool is that it allows the user to save a document of the search results which contains either the key information or the entire information of the actions and/or projects. This feature is specifically designed for the Management Board and Secretariat of JPI Oceans to easily prepare background documents for meetings.

Relevant information is displayed at the level of each action (Fig 3), the user is able to save this page as a factsheet. It is proposed that the secretariat of JPI Oceans facilitates the updating of this information, and this will normally be done in preparation for Management Board meetings. Before a Management Board meeting, the progress will be updated and after the meeting the next steps will be updated.

Figure 3: Results for an action in the online tool

Information about projects taking place in each action is also provided (Fig 4). It is expected that the project coordinator will provide the information for the projects.

Figure 4: Results for a project in the online tool

- Archiving for legal documents.

NEXT STEPS

In the next phase the above described proposal for an information management system will be presented to the JPI oceans secretariat. Based on the feedback and suggestions of the secretariat the system will be adapted to ensure the optimal uptake by the JPI Oceans governance structures. Following the approval the information on the JPI Oceans actions and projects will be compiled, quality controlled and uploaded in the database. Finally the use of the database will be thoroughly tested before the content is published online.

To ensure a seamless transfer to the new information management system WP5 will develop different user guides on the information management system for the JPI Oceans Management Board, secretariat and beneficiaries of project funded under the JPI Oceans framework.

INTRODUCTION AND BACKGROUND

In many ways the secretariat needs to be at the centre of an effective information management system for JPI Oceans. It responsible, in some way, for managing information at all levels, from daily communications between members to assisting in the development of high level policy briefs. As such, it seemed logical to start the process of developing an information management system with a workshop with the secretariat. The workshop, held on 9 February 2016, had two objectives:

1. Identify the problems faced by the secretariat in managing information and propose solutions which could be addressed by CSA Oceans.
2. Identify weaknesses in JPI Oceans information management and sharing and propose solutions which could be addressed by CSA Oceans.

The workshop comprised of a round table discussion in which the participants were invited to discuss both objectives and the outcomes are presented in two sections. The first, Secretarial Issues, looks at the internal problems relevant to the secretariat. The second, JPI Oceans Issues, is the secretariats perception of the information management needs of the whole JPI.

SECRETARIAL ISSUES

EXTRANET

Problems

The current Extranet is a source of a certain frustration amongst the staff of JPI Oceans secretariat. I have classified these into two categories, technical and behavioural. Technical issues are typically something which will need to be addressed by the systems administrator whereas behavioural issues are related to how the secretariat uses the system.

Technical:

- *Desk-top integration is almost unusable.*
- *Can only be used in Internet Explorer.*
- *It is not possible to find where documents are located in the search.*
- *Files, such as PowerPoint, are too large for the extranet.*
- *It would be useful if each member of the secretariat had personal space on the Extranet for their own working files.*

Behavioural:

- *No consistent policy on archiving, resulting in inefficiencies.*
- *Users aren't sure which documents should be archived on the Extranet.*
- *Several folders are not used; there is confusion over where files are located.*
- *Can be difficult for new users especially in the secretariat.*

Proposed solutions

Technical:

The technical issues can only be addressed by the system administrator. It is understood that there is an intention to update SharePoint to the latest version which should go someone to solving many of these issues. We will present the results of this workshop to the administrator to ensure they are aware of what the secretariat needs are.

Behavioural:

Many of the behavioural issues need to be addressed by the secretariat. This Work Package can assist by highlighting potential solutions to the above problems and assisting where feasible. In general, the group thought that the overall structure of the folders in the extranet could be simplified. It was suggested was to develop guidelines on using the extranet which should include:

- *Defining which documents need to be archived.*
- *Controlling versions of files.*
- *Naming documents standards.*
- *Each action (e.g. Pilot Actions, COFUND) could have a one page story timeline to understand where key decisions and progress has been made to ensure that this knowledge is not lost.*
- *It could be useful to have a half day course for the secretariat on how to manage information.*
- *A procedure for reviewing who has access to the extranet.*

However, a number of guidelines already exist so as a first step it was considered useful to compile these and to look at what is missing. It was also considered very important not to overburden the secretariat with procedures.

It was thought that CSA Oceans 2 could be a test case for the new SharePoint extranet, who could test new features and evaluate their usefulness to JPI Oceans.

EMAIL AND CALENDARS- ALL USE DIFFERENT SYSTEMS

An important underlying cause of the problems at a secretariat level arises from the fact that so many IT systems are used. Members of the secretariat are currently seconded from five different organisations, each with its own IT systems.

Problems

- *Sending calendar requests not always possible between different IT systems.*
- *Different definitions of the JPI Oceans calendars*
- *There is no system for archiving*

Proposed solutions

- *The ideal solution would be for all members of the Secretariat to use the same IT system. It was recognised that this isn't immediately feasible, but would be with the creation of a legal entity.*
- *It was proposed that there should only be one shared calendar. However, this may lead to more confusion. The secretariat needs to come to a common understanding of the calendars.*
- *It would be good to have the option of automatically archiving emails to the extranet. How this will work with the different systems needs to be thought about.*

LEGAL ISSUES

Problems

An unanticipated result of the discussions related to the legal aspects of information within JPI Oceans. When it becomes a legal entity, planned for 2017, it may be subject to legal freedom of information requests. As JPI Oceans does not currently have a procedure for information requests, there are a number or questions which will need to be answered, these include:

- What will be the legal requirements of JPI Oceans to submit to freedom of information requests?
- Will the organisation be subject to Belgian law alone or will the laws of its Member Countries also apply?
- How will the storage of information be managed? It is currently provided as a contribution by RCN, will the legal entity need to enter into a contractual arrangement if this is to continue?
- Are there other issues which have not been considered?
- Will there be any legal requirements under freedom of access to environmental information legislation?

Proposed Solutions

The law on freedom of information requests should be clarified for JPI Oceans. However, it was considered that these questions should be dealt with by the Business Planning Working Group of JPI Oceans. Work Package 5 has already identified this as an issue through this workshop and will forward this note to the Working Group for their consideration.

PROJECT AND ACTION INFORMATION

Problems

There are no procedures for how JPI Oceans will collect, store and disseminate information from the outputs of its actions. Indeed, any knowledge outputs from the Pilot Actions have been dealt with on an *ad hoc* basis so far.

Proposed solutions

The secretariat proposed to set up a framework for tracking publications through which JPI Oceans can track the outcomes of its actions. This should include all knowledge outcomes and data, which could be achieved by tagging datasets in data portals.

There was some concern that some information produced in the actions would not be in English. The Microplastics Pilot Action has addressed this by asking for annual reports in English from the projects; it was thought that this should apply to all new projects. It should also be considered that there is a difference between what the JPI requests and what the end users may need.

It was also suggested that JPI Oceans could provide templates for communication material as other organisations do[3]. This could be tested on one of the existing Pilot Actions such as Microplastics.

Finally, it was suggested that ERA-LEARN could be consulted on how ERA-NETs and other JPIs have addressed these issues.

GENERAL JPI OCEANS' INFORMATION

Problems

There is a perceived lack of understanding of what JPI Oceans is and does outside of the process. There is sometimes a perception that the JPI is a tool of the European Commission or a funding agency in itself.

Proposed Solution

The secretariat suggested that there is a need to review and re-write certain passages of text across JPI Oceans' communications to explain what it is and does. Work Package 5 has already proposed to

It was also thought that the decision making process of JPI Oceans needs to be clearer, something else which Work Package 5 has already committed to do.

WORK PACKAGE 5 NEXT STEPS

- Work Package 5 will review the outcomes of the workshop and decide what areas it can follow up on.
- There are some aspects which are not in the scope of Work Package 5. In these cases, we will pass on our findings to the relevant persons of JPI Oceans.
- The outcomes of this workshop will be used to inform the approach of Work Package 5 at its future consultations, the first one of which will be at the JPI Oceans Microplastics Kick-off meeting on 17 February 2016.

---

[3] See EEA

ANNEX II: ONLINE INFORMATION SYSTEM FIELDS

ACTION LEVEL

- Title
- Start Date/ End Date
- Status
- Strategic Area
- Type of Action
- External Partners
- About
- Background
- Objectives
- Action Impact
- Progress Updates
- Next steps
- Lead countries
- Participating countries (country, organisation, contact person)
- Associated projects
- Funding (including in-kind)
- Secretariat contact
- Extranet link
- Data DOI
- Related News
- Publications

PROJECT LEVEL

- Title
- Acronym
- Start Date/ End Date
- Status
- Strategic Area
- Work Packages
- Objectives
- Impact
- Partners
- Funding partners
- Project coordinator contact
- Project website
- Funding (including in-kind)
- Extranet link
- Project publications
- Metadata
- Data DOI