Specifications of the SEAS-ERA "Information Portal": Structure and Functionalities

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Task Leader/Author: FCT/Sandra Sá

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Summary
This report explains the structure, functionalities and timeline for the SEAS-ERA "Information Portal" Development.

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Part I – Specifications of the SEAS-ERA "Information Portal": Structure and Functionalities

1. Background

SEAS-ERA overall objective is to facilitate the establishment of a stable and durable structure for strengthening marine research across the European Sea Basins. To do so the project brings together 21 major European Marine Research Funding Organisations from 19 countries in the basin regions of the Atlantic, the Mediterranean and the Black Sea.

SEAS-ERA aims to:

- Contribute to setting up of a European Marine and Maritime Research Agenda and develop a stable European overarching operational structure for its implementation;
- Enhance cooperation between Member States and avoid fragmentation by fostering synergies at regional and European levels towards achievement of Joint Programming;
- Propose a plan for a better and sustainable use of Marine Research Infrastructures;
- Improve science development and its utilization in Europe through human capacity building;
- Enhance public awareness of marine and maritime scientific and policy issues in Europe.

2. Main specifications of the SEAS-ERA "Information Portal"

The SEAS-ERA "Information Portal" has an important role to play in the SEAS-ERA project, as the focal tool for communicating and disseminating information generated by the beneficiaries of the project. Potential end-users will also be scientists, decision-makers, industry and general audience.

2.1 Principles to be considered for the definition of the specifications of the "Internet Hub" are as follows:

- To be the focal point of information and dissemination of the results/products of the SEAS-ERA project;
- To build up a structure with two main functionalities: dissemination of information with open access, and as a corner stone of the information portal of the SEAS-ERA project that will give access to the working area of restricted access to the SEAS-ERA beneficiaries;
- To be a high quality "Information Portal" in terms of easiness and velocity of access to information, and in terms of quality of the online information;

- Implementation of the "Information Portal" according to the rules for "accessibility" of the W3C organisation, (institution that sets the world accessibility standards), which allows citizens with some degree of disability to have access to the Information Society technologies.

2.2 Main components of the Information Portal:

- A public access website: the "Information Portal" that has one domain (URL) which is easy to identify - **SEAS-ERA.eu**. The URL leads the users to the front page of the "Information Portal";
- An administration/editing area: to allow the input and editing of information as well as to change the page structures if necessary.
- An Extranet area: that is a "private office" that uses internet technology and public telecommunication systems to securely share information that is only available for the SEAS-ERA beneficiaries.

2.3 The "knowledge objects" of the "Information Portal" includes: contents, databases, files (virtual library, including media files) and links. The "Information Portal" management allows the inclusion of cross-referencing between contents and/or categories.

2.4 The graphical guidelines to the "Information Portal" design were developed taking into account the existing Logo of SEAS-ERA (Figure 1). The "Information Portal" is optimised for the most used versions of the most used browsers. The language of the portal is English.

Figure 1 - SEAS-ERA Logo

2.5 EurOcean will ensure the hosting and technical maintenance of the "Information Portal" throughout the duration of the SEAS-ERA Project starting on January 2011.

3. Description of the three components of the SEAS-ERA "Information Portal"

The main components of the Information Portal, as well as their users and the corresponding using rights and permissions are summarized in Table 1:

Table 1: Portal users and privileges

Areas	Portal Users	Rights and Permissions
Administration/Editing area	Administrators of the "Information Portal"	Full rights on all the web pages of the public access area of the "Information Portal".
Public access area	All end users	Read-only rights: navigation and access to all information available in the public website. Mailing registration. Submit your News No input of information.
Extranet	Administrators SEAS-ERA Beneficiaries and associated partners	Upload, Delete and Download Documents.

3.1.   Administration/Editing

The "Information Portal" has an administration/editing area to allow the administrator(s) to manage the page structure and contents (Figure 2). The editing access is restricted to the management team of the "Information Portal".

The features of this administration/editing area include the following functionalities:

- Insert, deactivate and delete contents (HTML). All contents receive automatically a date of insertion online or of update;

- Insert, deactivate and delete News, Events, and insert information in the Banner of the Homepage (see 4.2.1);

- Manage an Electronic Newsletter. This functionality consists of a preformatted email tool. The content of this newsletter may be a selection of pre-existing contents on the public website or a specific content created for a specific edition.
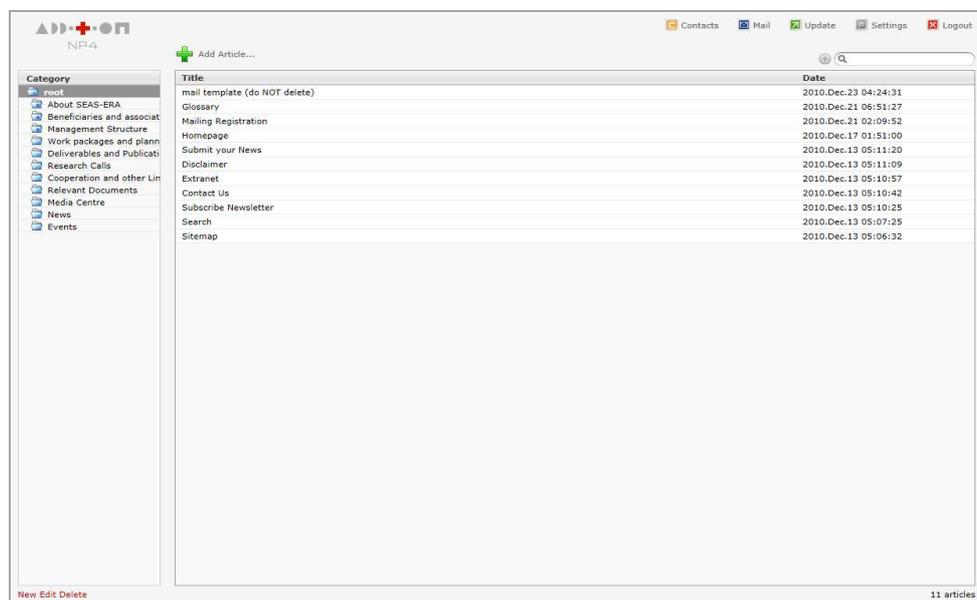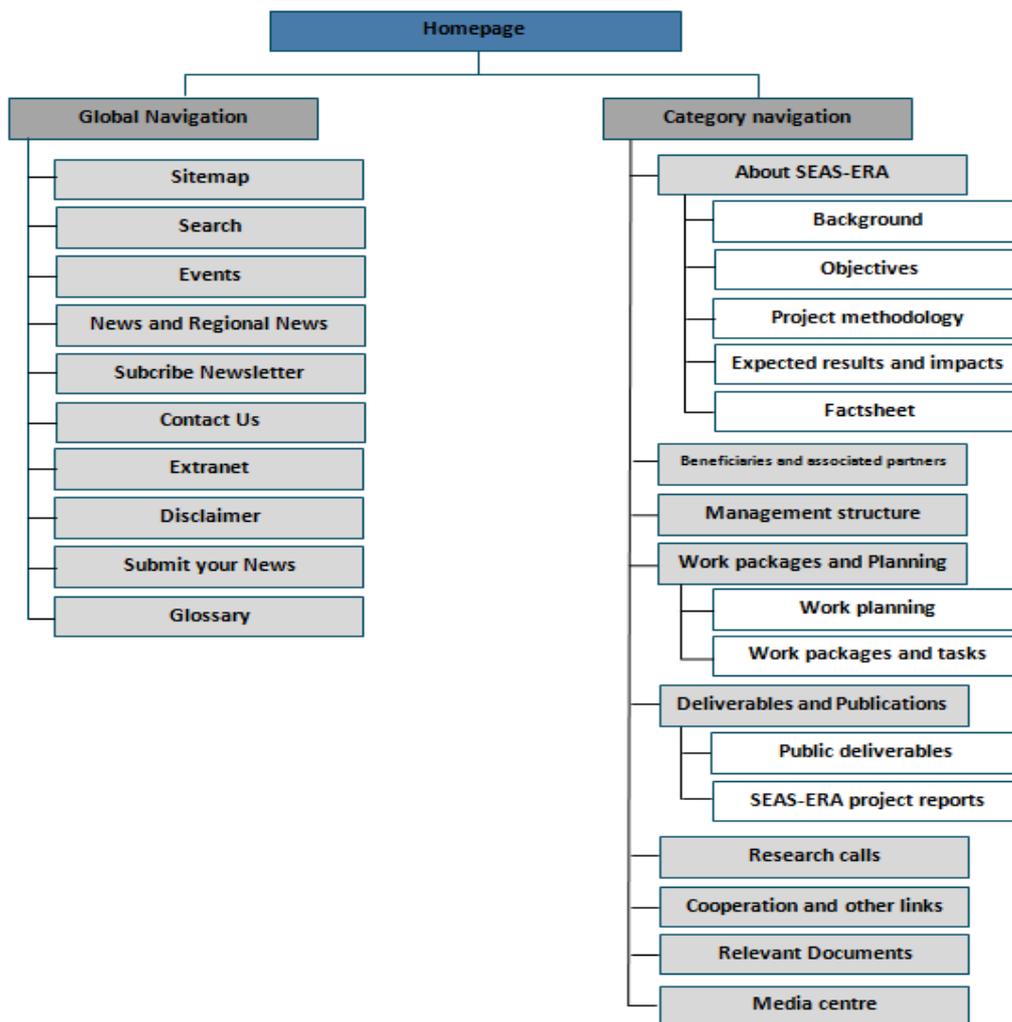

Figure 2 – Layout of the SEAS-ERA editing area of the Information Portal

3.2.   Public Website

The overall structure of the public website is shown in Figure 3. The homepage incorporates two navigation domains, namely the global navigation and the category navigation which are described in the following sections.
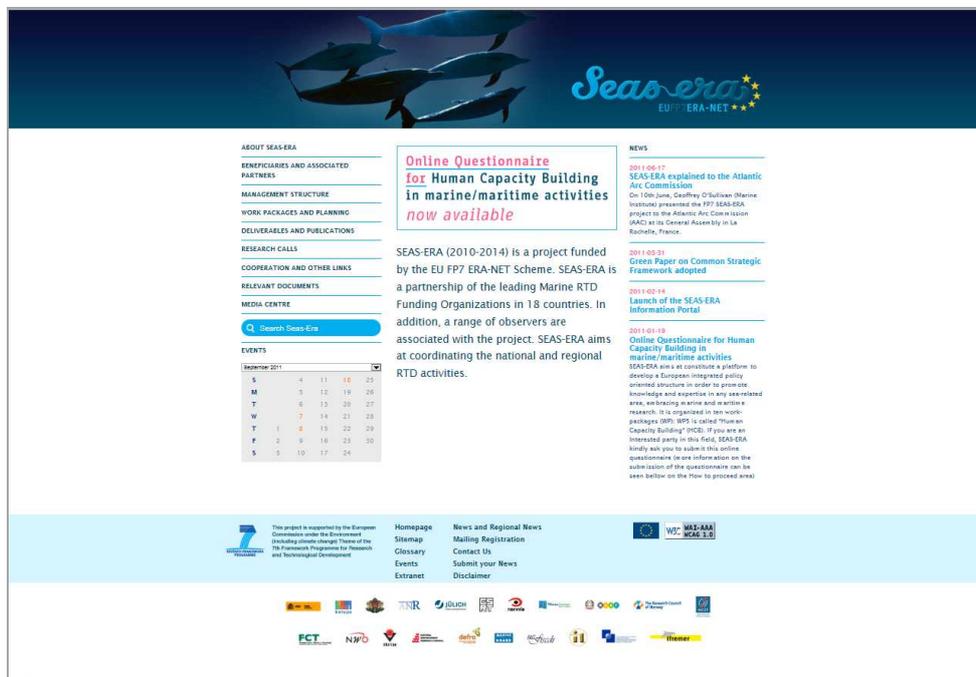

Figure 3 - Overall structure of the SEAS-ERA public website

3.2.1. Content area of the homepage of the public website of the "Information Portal"

The content area of the homepage includes (Figure 4):

- A short introductory text that briefly describes SEAS-ERA for those users who are not familiar with it: "SEAS-ERA (2010-2014) is a project funded by the EU FP7 ERA-NET Scheme. SEAS-ERA is a partnership of the leading Marine RTD Funding Organizations in 18 countries. In addition, a range of observers are associated with the project. SEAS-ERA aims at coordinating the national and regional RTD activities."

- A section for the latest SEAS-ERA news headlines, with links to the respective news article;

- Advertising banner where any information of special interest for SEAS-ERA can be advertised;

- Interactive Calendar to display events/deadlines related to SEAS-ERA;

- SEAS-ERA beneficiary logos with links to the respective webpage;
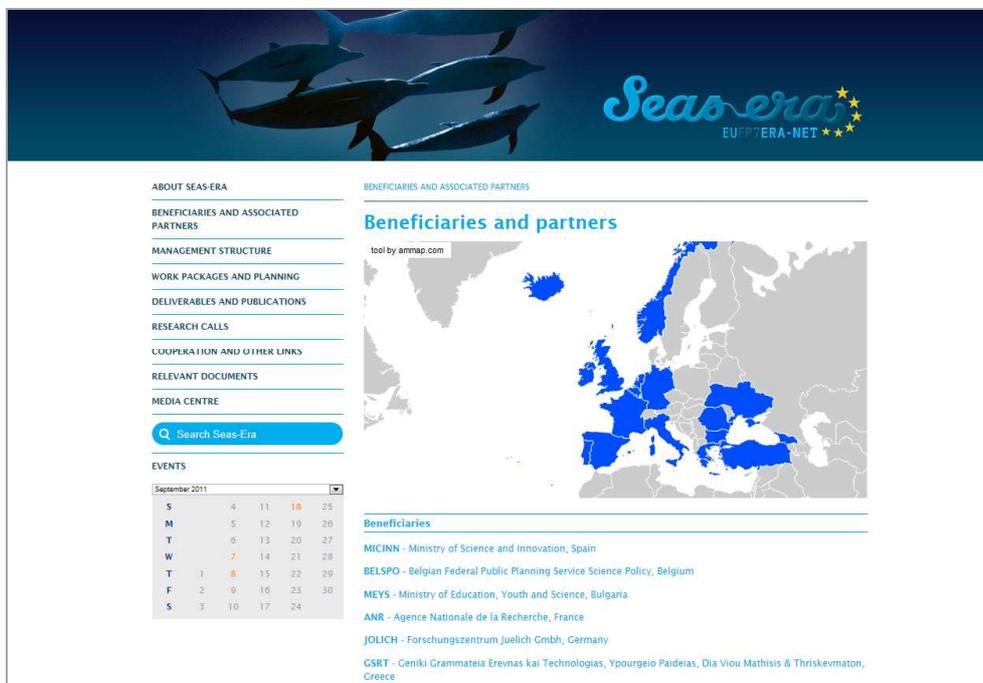
- SEAS-ERA logo or banner.

Figure 4 – Layout of the SEAS-ERA Public Website Homepage

3.2.2. Category navigation

It is mainly through this area that users navigate across the "Information Portal" and consequently access the majority of contents. The following categories and related subcategories have been identified:

- **Homepage** (inclusion of the EU and FP7 logos; the following sentence will also be included "This project is supported by the European Commission under the Environment (including climate change) Theme of the 7th Framework Programme for Research and Technological Development"); inclusion of a link to the Environment theme website and other websites)

- **About SEAS-ERA (general information about SEAS-ERA project)**
  - Background
  - Objectives
  - Project methodology
  - Expected results and impacts
  - Fact sheet

- **Beneficiaries and associated partners** (Interactive Map showing geographical distribution of partners, with ability to click on country to get a detailed description of each partner (Name, Acronym, Logo, Country, Role in SEAS-ERA, Link to the Webpage, Description of the Institution, and Lead Person). See Figure 5.

- **Management structure** (information on the overall project management structure)

- **Work packages and Planning**
  - Work packages and tasks (inclusion of an explanation of the key deliverables and milestones)
  - Work planning (with a graphical representation of how the different work packages are linked)

- **Deliverables and Publications** (listed in a downloadable table with the following information: work package number, deliverable number, title, due date, author; download PDF button)
  - SEAS-ERA project reports
  - Public deliverables

- **Research calls** (Area to display all the information related to the research calls opened under the project. Subcategories and type of information to be developed at a later stage)

- **Cooperation and other links** (Area to display links of cooperation and other institutions relevant to the project)

- **Relevant Documents** (List of relevant documents to the project)

  - Relevant Documents about SEAS-ERA

  - Relevant Documents

  - Other Documents

- **Media centre** (Area to display all the information relevant to promote the project)

- **Glossary**

  - Glossary of terms and abbreviations

  - Link to a WIKI of the project (if applicable)

Figure 5 – Layout of the *Beneficiaries and associated partners* webpage

3.2.3.   Global navigation

The following categories and related subcategories are included in this domain:

- **Sitemap**

  - Sitemap is a page with an index of the pages of the public website.

  - The pages can be accessed by clicking on the headlines in the list; the list also shows the public website structure.

- **Search**
  - This search functionality is a plug-in of the Google search facility for the SEAS-ERA public website.

- **Events**
  - List of forthcoming events.
  - Events can be added/modified/deleted by authorised administrators.
  - Both start and end dates of the event are shown in the list, as well as the title of the event.
  - Events are presented in an interactive calendar format with the option to remove it at any time.

- **News and Regional News**
  - List of news items containing: headlines and publishing dates.
  - Each of the news is seen on one screen by clicking the headline.
  - News can be added/modified/deleted by authorised administrators.
  - Attachment files can be added to the news items.

- **Subscribe Newsletter**
  - Registration form, where any visitor can record its e-mail address in order to receive the latest updates or newsletter of SEAS-ERA. This functionality has to be an editorial choice (it is up to the Project management team to decide the appropriate moment to send messages to registered users) and not automatically.

- **Contact us**
  - To avoid disclosure of personal emails, two forms were created: one to contact the project management team and a second to contact the "Information Portal" administrators.

- **Extranet**
  - http://extra.seas-era.eu/login.jsp

- **Disclaimer**
  - Rules regarding the usage of the information of the SEAS-ERA "Information Portal".

- **Submit your news**
  - To promote interaction with the different users of the SEAS-ERA "Information Portal".

- **Glossary**
  - Glossary of terms and abbreviations

3.3.   Extranet

The Extranet has the appearance and feel of a website, but with levels of security to prevent unwanted viewers from accessing private data (password access). An Extranet - a private Internet area for people inside the consortium - widens the scope to privileged users defined by the project consortium.

The name of each category/folder and the respective organisation were defined in accordance with the SEAS-ERA Project needs (Figure 6).
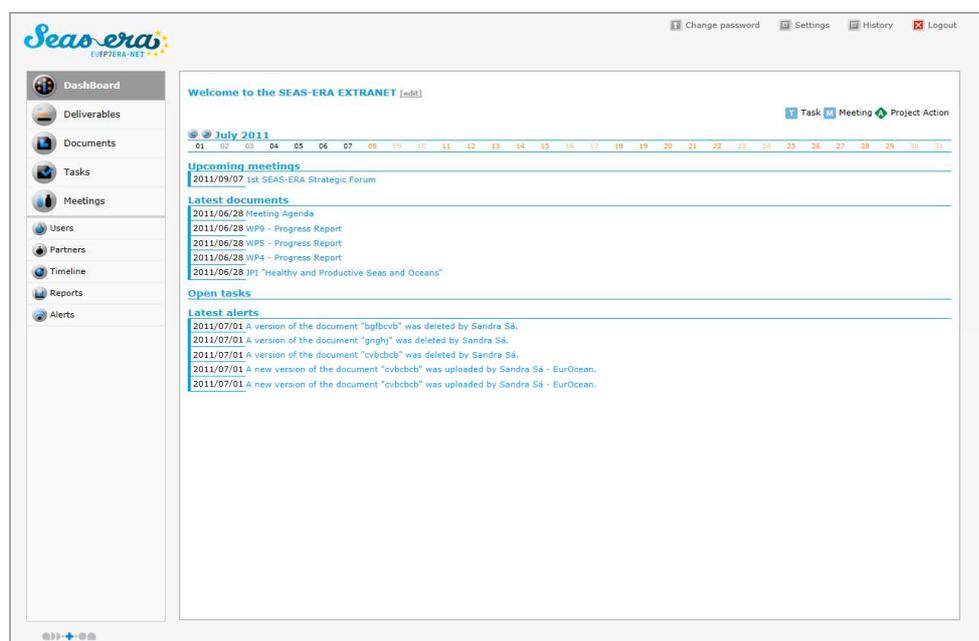

Figure 6 - Layout of the SEAS-ERA EXTRANET

4.   Hosting the Web Server

The web server is hosted in the EurOcean's Server and under the IT infrastructure of FCT (The Portuguese Foundation for Science and Technology).

Part II – SEAS-ERA "Information Portal" – Technical approach

5. Introduction and requirements

According to the specifications, the "Information Portal" is organised in three key areas: a public website for the diffusion of public documents and other knowledge artefacts to act as corner stone of the information portal of the SEAS-ERA consortium, an Administration/Edition area where all the public website (structure and contents) and e-newsletters are managed and one working area of restricted access to the SEAS-ERA beneficiaries.

Common to the three areas are the following requirements:

- **Usability** – the user interface must be straightforward and easy to understand;
- **Speed** – from download speed to finding the information you seek, this is a major issue that should be measured and cared;
- **Quality –** quality of the information must be accompanied by technical quality of the system and graphical quality of the interface;
- **Reliability** – all users must be able to depend on the "Information Portal": uptime over 99.5%;
- **Open standards compliance** – all structural solutions should be open to change and preferably adopt open-source or independent standards.

6. Functionality

The architecture, content and navigation of the "Information Portal" focus on the specific functionality that arises.

On the public website, there is a basic structure and navigational controls / tools (italic):

- Homepage
- About SEAS-ERA
- Beneficiaries and associated partners
- Management structure
- Work packages and planning
- Deliverables and publications

- Research calls

- Cooperation and other links

- Relevant documents

- Media centre

- *Sitemap*

- *Search*

- *Events*

- *News and Regional News*

- *Subscribe Newsletter*

- *Contact us*

- *Extranet*

- *Disclaimer*

- *Submit your News*

- *Glossary*

The homepage has contents like news, calendar, banner and introduction.

Structural/category pages can have sub-categories and have specific content. On these pages a hierarchical navigational mechanism should be displayed ("bread crumbs") that clearly shows where users are and where they can go. It could use a folding structure of the categories (like windows explorer) highlighting the "current" category.

"Contact us", "disclaimer" and "sitemap" are regular navigational areas without any "special" features.

Extranet link connects with the private area allowing the access of that area to the SEAS-ERA Beneficiaries and associated partners.

"Events" and "News" are database driven modules. The adoption of a standard web-application named nPublisher 4.0 for the management of these areas is proposed.

"Subscribe Newsletter" was implemented by a contact collection component. Collected contacts are integrated with the mailing/notification (e-newsletter tool) manager available on the administration/editing area.

"Search" tool is currently a rather difficult choice because Internet users are becoming increasingly familiar with very powerful search tools like Yahoo, AltaVista or Google. This kind of technology is not available for integration for a reasonable price and the available solutions can be frustrating to users.

EurOcean believes that for general website search (as wanted) the best solution is to adopt "Google site search" this means that when users do a "site search" it is conducted in the Google engine and Google results are shown, directing the user to the SEAS-ERA website again.

On the other hand, specific searches should be available on database driven components like the news area.

7. Platform

For the software base system on which the application layer is built and installed, is used:

- VMWare ESXi 4.0 virtualization platform;
- Debian 5 Linux OS virtual machine;
- Apache web server for security management and load balancing;
- Caucho Resin Web/Application Server;
- Sun Java JDK EE 1.6;
- PostgreSQL 8 object-relational dabase management system.

The supporting hardware is:

- 1U Rack Server 1 TB Disk on RAID 5;
- 16GB RAM;
- 2x4 Core 64 bit Intel processors (2.0GHz);
- Gigabit Internet connectivity via FCTs Wide Band Network.

8. Project Schedule

The implementation phase started in December 2010 and was planned to last for three months, being finished on the end of February 2011. The phases of implementation were as described below:

1. First Demo (Mid January);

2. Trial Period (15-31 January 2011) – To be tested and receive comments by all Beneficiaries;

3. Implementation of comments/corrections (1-15 February 2011);

4. Launch of the "Internet Hub" (End of February);

5. Technical and content update and maintenance (throughout the Project).